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STEAM CULTIVATION.

BY COL. C. W. SALADEE, OF PADUCAH, KY.
NO. II.

Ed. Valley Farmer: Before the breaking out of the present lamentable war, your correspondent was a citizen of Texas. While yet a resident of that noble State—

"With her prairies wide and free"—

the peculiar device for a steam plow I shall here describe, and the system for the arrangement and management of the farm or plantation upon which steam cultivation is to be introduced, and yet to be mentioned, was there conceived and all its details worked out; and at the commencement of our national troubles, he was having in process of construction at the "People's Works" of Messrs. Hunsworth, Eakens & Co., of Philadelphia, the machinery hereinafter described.—But the nation's deep trouble admonished him to suspend the farther prosecution of his project for the time being, and patiently and hopefully await the return of peace and a renewal of those bonds of "brotherly love" which made our glorious Union so powerful and our people so prosperous and happy.

The novelty of my system of steam cultivation, as you and the majority of your readers have already seen, exactly reverses the traction or draft system referred to in my last. In place of using a traction engine to drag the plows, the rotary action of the eighteen mold-board plows upon the ground propel the machine, on the same principle that the action of the wheel upon the water propels the boat. By this means I most effectually overcome the difficulties attending the traction principle. For in this case I am not dependent upon the weight of engine so absolutely necessary in the traction system. On the contrary I am permitted to study the lightness of the thing, and thus render the machine capable of passing over any species of arable ground.

This, I hold, is a great point attained, and while my invention embraces this important advantage, it, at the same time, embraces in the same machine the capacity for performing a greater variety of farm and plantation work than has ever before been attempted in any machine of a similar character; indeed, it is capable of doing all the various kinds of farm and plantation work to which the steam engine can possibly be applied. It can be used for plowing alone, or it can plow, roll, sow the seed, and harrow at one operation. When done in the field it is capable of propelling itself to any point upon the farm where it may be wanted for other purposes—such as to saw lumber, do grinding, gin cotton, thresh and clean grain ready for market, draw water, saw the wood consumed

by itself; or it may be used as a traction engine to draw the wagon or "truck" over the prairie, or to operate the mammoth mowing machine built for it by Messrs. Fisher, Shalters & Co., of Alliance, Ohio, cutting a swath nine feet wide. The peculiar construction and operation of this machine will be easily comprehended from the following detailed description of its various parts:

The main weight of the machine is imposed upon a revolving drum, which is six feet two inches in diameter and seven feet across, the surface of which is made of boiler iron. This drum is separated in the centre, so that each half of it is operated upon independently of the other, for the purpose of facilitating the turning of the machine, as will presently appear. The front extremity of the machine is supported upon two wheels, three feet six inches in diameter, each having a surface tread of fifteen inches, also of boiler iron. These wheels and their axles are connected to the steering arrangement. The main body of the machine is nine feet wide, and that portion of it in front of the upright boiler, is divided into three spaces. The centre space from the fire door to the front end of the machine is four feet wide, in which stands the boy who fires the engine; and the spaces on either side of this, are taken up for the fuel or wood boxes. The water is carried in the tank, which extends across the full width of the machine, immediately back of the boiler, and which is designed to hold six barrels of water. The space occupied by the seed-box, also extends the full width of the machine. This box is designed to hold 25 bushels of seed, the bottom of which is provided with the ordinary seed drill arrangements for distributing the seed into the twenty-four pipes connected to the same, and through which it is cast upon the ground. From the back end of the machine extend two radius bars, on the outer end of which is secured the revolving shaft forming the centre of the circle described by the plows. This revolving or "plow shaft" has a crank at each end, one set at right angles with the other, and acted upon by double engines and connecting rods—the cylinders being on each side of the machine. This shaft has secured to it eighteen mold-board plows and a corresponding number of coulters. Those plows are placed in three spiral rows around the shaft, so likewise the coulters—there being six coulters and six plows in each. The points of the plows describe a circle of six feet two inches diameter. The plows made use of, have a mold-board and share similar to the ordinary plow; but in place of being straight on the bottom, they are curved into a segment of the circle described by their points.

Now, it will be observed, that attaching those plows to the revolving shaft in the spiral form described, there will be one plow an equal distance in advance of the other the whole way round; and thus, the first plow entering the ground in making its revolution, clears its circular furrow to receive the dirt from the mold-board of the one by its side and a little back of it; this one in its turn does the same thing for the third plow, and so on round until every plow and coulter has cut in its regular order, plowing a swath seven feet wide, and varying in depth from six to eighteen inches as may be required. The arms by which the plows and coulters are connected to the revolving shaft, are so secured to the latter, that either one may be readily removed by taking out the two bolts that hold each to its place. The plows are raised and lowered by means of two long racks and pinions which are connected to each end of the plow shaft and extending up to the platform on top of the machine, and there connecting to a light hand wheel, similar in its construction and operation to those seen in the pilot-houses of steamboats. While the machine is at work it is the duty of one man to stand by this wheel to raise and lower the plows as the nature of the ground, and the turning of the engine may require. While the machine is at work the plows may be swung clear of the ground when in the act of turning without stopping their revolving. In fact, it is not necessary to stop the engines at all while the machine is at work.

In the first experiment made by me in plowing upon this rotary principle, I found that when I had steam enough to revolve the plows in a Timothy sod at eight inches deep, I had infinitely more power than was necessary to propel the machine; so that in place of plowing the ground clean, but a piece of the soil would be cut out here and there, just sufficient to catch the necessary resistance upon the ground to carry along the machine. This experiment proved to me the correctness of the principle involved, viz: That no power is expended for the express purpose of propelling the machine, as in the traction system of plowing; but, on the contrary, the very act of doing the work required propels the machine, so that not one ounce of steam is wasted expressly for that purpose, but the whole force of the engines is directed to the work to be done, and the resistance the soil offers the plows is of sufficient magnitude to give motion to the machine.

For the purpose, then, of obviating the difficulty of the machine traveling over the ground and doing only so much plowing as was requisite to propel it, it was necessary to interpose a gearing between the action of the plows and the main revolving and supporting drum, that should regulate the forward motion of the latter in proportion to the cut made at each revolution of the plows. This gearing is connected to the power shaft which extends across the machine immediately back of the supporting drums, and connected to them by shifting pinions which work into trundles secured to the inside ends of said drums; and by the interposition of different sized shifting pinions, the plows may be regulated to cut any quantity of land at each revolution that may be desired, varying from eighteen to thirty-six inches, by seven feet wide.—So that by this arrangement it is as impossible for the machine to travel faster than the plows are capable of cutting away the ground, as it is for the log upon the saw-mill carriage to advance faster than the circular saw is capable of cutting its way into it. One acts with the other, so that the machine is made to travel in the exact proportion dictated by the cut of the plows at each revolution they make.

The harrow is attached to the opposite end of the machine from the plows, and receives its rotary motion from two belt wheels connected to the power shaft on each side of the machine.—The central shaft of the harrow is the same length as the plow shaft, and works the same width of land (seven feet). The teeth are likewise placed in a spiral form around the shaft, the same as the plows and coulters. The circle described by the points of the harrow teeth is four feet diameter. It is raised and lowered by means of a hand wheel, worm wheel, lever and perpendicular rods. The harrow can be made to revolve with a much greater velocity than the plows, and thereby lighten up the ground in as fine condition as a well-made garden bed.

Ashland Farm, Ky.

Save Your Poultry Dung.—Ay! but who does it? There are many who do; but many, many more, who do not. It is worth thrice what your stable manure is. Keep always a little earth mixed with it. This earth wants to be moist, so as to take up the ammonia, which is very strong, uniting with the humic acid of the ground. For any choice garden plot, this is the manure you want.

Sleep is more invigorating than food.

From the Iowa Homestead.

ON GROWING AND CURING TOBACCO.

[Continued from April No.]

CUTTING AND CURING.

The cultivator of this crop may have managed all the details of his culture properly, and may have secured a splendid growth of tobacco, and been successful in protecting it from the ravages of the cut worm and tobacco worm, the heat of the sun, and every opposing circumstance, and may be congratulating himself on a heavy crop and the prospect of large prices—yet his hopes may be blasted, and his prospective success result in the most disastrous failure, if the after processes of its cure are not managed with that care and judgment that only long experience and thorough knowledge of what is required can give. Therefore, any one who proposes having a large crop, who is not thoroughly conversant with the curing, would do well to employ some one who has the skill and can be intrusted to manage the crop for him.

The tobacco should be cut when the leaf becomes mottled, and will crack with a clean fracture when folded from the underside. Many growers do not wait for this, but cut up the crop as soon as it has attained its largest growth after the second suckering, in order to have the tobacco housed before the 10th of September, which is as late as it is safe to have it exposed. This is the time in Connecticut, and would doubtless be a safe rule in Iowa; but the condition of the plant and the prospect of frost at the time, will, doubtless, have to be observed; with us the time may perhaps be extended some ten days longer without injury from frost.

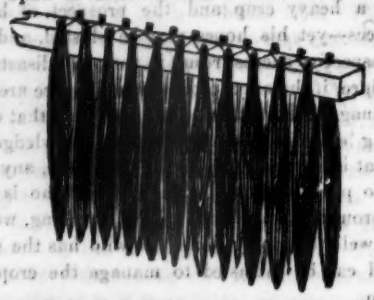
The usual mode is to cut the tobacco in the afternoon after the sun is low. If cut too early the tobacco is apt to "scald;" great care should be taken to prevent this, as when it is once "scalded" it will never ferment, but remains with green spots. The portion cut in the afternoon should be housed before eleven o'clock on the succeeding day. When the ground is dry, tobacco will scald under very moderate sunshine.

Cutting tobacco consists in splitting the main stalk with a knife nearly to the ground, say about two-thirds, leaving sufficient of the main stalk adhering to hold the several parts when thrown across the poles in the drying house.

When the tobacco is brought into the house, it should not be laid in large heaps when hot from the sun, as the heat will rapidly increase

and the color of the tobacco will change; it will become black and the leaf will thicken.

The tobacco shed should be 24 feet wide, with posts 17 feet above ground. This will give three tiers of poles. The poles are 12 feet long, and are laid in tiers 5 feet apart, and from 15 to 18 inches from centre to centre.—The shed should be closely boarded to prevent snow driving in and to keep the tobacco from fretting by being blown about by the wind. Every third or fourth board should be so hung as to open to allow a free circulation of air;



Hanging Tobacco on the poles.

these boards should be opened while the tobacco is drying on the side opposite to the wind. The tobacco house (hereafter represented) gives a good idea of the plan of one more complete perhaps than the one described, with the tobacco hanging by the leaf alone, as described below.

The plants are hung upon these poles; if large, 28 to 35 upon a pole; if small more can be hung. If there is no floor to the shed, the lower tier of plants should be full two feet from the ground, and the whole should be hung in such a manner as to secure a thorough draft of air about every plant.

Another Mode—For those who cultivate but little, the following plan, which is practiced in Ohio to some extent, may be found the most economical, especially where room is limited. It is to strip the leaf from the stalk when standing, which is done by grasping the stalk loosely at the top and running the hand to the bottom, which readily does the work. When this is done the leaves are carried to the room or house used for the purpose, where they are strung upon sticks about four feet long as follows:

The stick, which is blunt at one end, is inserted firmly in an auger hole made in a log or heavy block of wood; to the inserted end is tied a strong piece of twine close up to the block; the string to be about two feet longer than the stick, with a long needle fastened to the detached end; the leaves are then taken separately and the needle put through the butt end of each leaf, which is run upon the string up to the end of the stick inserted in the block; as they are run on, the leaves are alternately thrown on each side of the stick, every other one or two occupying different sides, thus balancing each other. The stick being filled, the needle-end of the string is fastened to the other end of the stick. Care should be taken to put no more leaves on the string and stick, nor put so close as to prevent the air circulating freely among the leaves when hung up to cure.—These sticks are then placed upon poles in the drying house, and managed very similar to the mode described above. This plan cures the tobacco the quickest. The cut representing a plan of hanging tobacco on the poles, is very similar to the one described above.

We now resume the Connecticut plan: The tobacco is left hanging until the stem is cured sufficiently to break it when it is dry. Then, on some damp day, when the leaf is limber enough to handle without breaking, it is taken down and laid in piles, the butts out until it answers to strip.

A person who should be a good judge, takes the plant and strips from the poorer portion of the leaves, such as will only answer for fillers; then are taken off the partially damaged leaves, those that are ragged or a little sunburnt, those near the ground that are of inferior quality as to texture and color, and the top leaves that are not fully matured, these make inferior wrappers. The remaining leaves are all first-class wrappers. The practice of making three grades is by no means universal; many cultivators merely select the portion that will answer for fillers, and call the rest wrappers. The best price is undoubtedly obtained for closely selected tobacco. The stalks are housed till spring, when they are used for manure.

Each kind of tobacco is carefully and separately packed as soon after it is taken down as possible. If it ferments while it lies loose, it "sweats" imperfectly. If it is opened and cooled after fermentation commences, before it is complete, it becomes tender and comparatively worthless. The wrappers are packed closely in "hands," some 30 to 40 leaves to a hand (when this or any other number of leaves are tied together at the butts, it is called a "hand.") Care is taken that the leaves lie even and straight. The fillers are packed closely to prevent the air from passing through.

[Written for the Valley Farmer.]

Agriculture of the Chinese.

Our civilization is so very different from that of the Chinese, that we are inclined to ridicule them, just in the same degree as we are ridiculous to them, or to class them among the barbarians, just as they do with us. But, though we excel them in many things, especially in our more recent discoveries in the field of natural sciences, in the uses of steam, electricity, magnetism and chemistry, etc., they certainly excel us in many other things, not less valuable. Let us, therefore, like the bee which gathers honey from every flower, even the poisonous, acknowledge the good, for our own improvement where we find it, even among the Chinese.

There are two very valuable qualities in which this people excel us, and by the possession of which we would be much better off than we are, namely their agriculture and their filial piety. As for religous piety, I know of no other people whom the Chinese resemble more than the Americans. Both are spending a great deal of money for what they call their religion. Their country is full of houses of worship for every sect and denomination, and yet in reality, the idol worshipped by all above all other things, the God loved most, and feared most, and served with the greatest devotion, is the almighty Dollar! But in filial piety they certainly excel us, therefore that word is filled with them, which says: "Honor thy father and thy mother, that thy days may be long upon the land which the Lord thy God giveth thee," while with us it is getting to be fulfilled too.

Above all, in agriculture, the Chinese excel us. If they should see how we are dealing with our virgin soil, so that often after less than twenty years' culture it is so worn out that it is hardly able to bear a crop of weeds, while they transform barren hillsides into fertile fields, and their land generally after several thousand years' culture is yet bearing immense crops of useful plants, year after year, and in the southern parts, where there is no winter, without hardly any interruption. If they should see how soon we destroy the productiveness of our soil and should point to us as barbarians, I think they would not be very wrong. Even the Indians complain that the white man, where he lives, does nothing but destroy the majesty of the native forest from which he did drive away the red man.

The three chief reasons why our farm land is generally so soon worn out, are, as all know:

1. Our strong rains soon wash off the best part of our lands.

2. We exhaust its productiveness by taking from it, without much rotation, a few kinds of crops, and do not give it back the lost materials of fertility in the form of an adequate manure.

3. The chief reason is: Our land being so abundant has a very low price, and what costs but little is not much esteemed by us. We think it pays better to exhaust the fertility of the land we occupy—for public opinion does not call it sinful and mean to overwork and abuse our bountiful farms, though we consider it wrong to overwork a trusty servant or a faithful horse. After our land is worn out we move to some other place and begin the same game again. Schiller represents in his beautiful poem, "The Complaint of Ceres," the progress of humanity from its lowest degree, the troglodytes to hunter, from hunter to nomade, and in agriculture it comes to its fullest development. For agriculture is the true mother of every useful art and science of civilization. But it seems to me, we of the West are not yet fully developed into farmers; like half-fledged butterflies, we are bearing yet the shell of our state of chrysalis, we are yet half-nomades, who when they and their cattle have eaten up all the food of one place, pitch their tent at some other locality. I am afraid, if we do not give up this kind of agriculture, we will like the Bedouins of Syria, who transformed the land "flowing with milk and honey" to a desert, soon have no land left to raise our bread upon.

Let us see why the land of the Chinese remains fertile, and even increases its fertility, though it bears immense crops year after year.

The climate of China is much like our own, of the same latitude. It has the same kind of rains. Their land being more mountainous was perhaps originally not so fertile as ours. But they, having on an area of about three-quarters of the United States to sustain a population variously estimated between three and four hundred millions, cannot afford to destroy the fertility of their soil, they were bound by necessity to retain and even increase it, and they did it. "For unto every one that hath, shall be given, and he shall have abundance, but from him that hath not, shall be taken away even that which he has." With them nobody tries to cultivate more land than he can cultivate well; there is very little temptation to do it, for there are not many great land owners, as with us. Besides cultivating their land well, they likewise give it its full share of manure. All that has been taken from the land returns as much as possible back to it again in one form or the other. The excrements of men and animals, old leather, hair, horn and bones, etc. are all carefully preserved and brought back upon their farms. We know that in European countries they manure their lands with more or less care, but in all a great part of the most powerful manure is wasted; nowhere but in China and perhaps Japan are they so careful not to waste, what may serve to fertilize their fields, and in no other country bear the fields so enormous crops.—Their land is as with us, to a great extent level, but where it is undulating and hilly, they have made it level by means of terraces. It is intersected in every direction by ditches and canals, which can be well regulated by means of sluices, and are useful to drain the land when there is abundance of water, and to irrigate it in times of dronth. And above all they love their farms much more than we do, they do not sell their homesteads to every one who offers a few dollars' profit. On a certain time every year do the children of one family assemble under the paternal roof and on the graves of their parents. They have often asked the Christian missionaries how they could have left their homes and the graves of their parents? To do such a thing, they regard as a want of filial piety. With them

bountiful earth is a kind mother, and therefore to abuse it would be not less mean than for a son to treat ill his own mother. And to destroy its fertility is with them a crime without name, a sacrilege not less than parricide.

I have read in some description of Japan, that there they have a law, according to which the land of every one is confiscated who does not improve it; and that for every tree cut down, at least one useful tree must be planted again. If our legislators would make a similar law and enforce it, I think, it might do some good.

The Chinese honor agriculture. The Emperor himself cultivates the soil. The son of Heaven (as they call their Emperor), he whom they honor with almost religous worship, whom nobody approaches but on his knees, is bound by law and custom to cultivate every spring a certain piece of ground, while all the dignitaries of his court are present in their splendid robes of ceremony to assist him. The like ceremony is performed at the same time by the governors of the different provinces near their respective capitol cities. And when embassadors come to court from the different parts of the empire, the Emperor will question them regarding the state of the different crops. It is a duty of the Governors to report annually what men of their provinces are the best farmers (that means according to their idea of a perfect agriculturist), who are distinguished not only by the most careful cultivation of their farms but also by their good reputation among their neighbors, by their industry, frugality and economy. And the men so recommended are elevated by the Emperor to a certain rank, which gives them many privileges, and which may perhaps be compared with that of the French Chevalier of the Legion of Honor.

The agricultural tools of the Chinese are very simple. They have a plow of very primitive construction. But as nearly all their land is worked by hand, they use more the spade, hoe and rake. They have not so much use for labor-saving machines as we have, for their farms are small and the hire of a farm hand is very low. But with their simple tools they keep their farms well in order; indeed, their farms, being so nice and well cultivated, might be properly called gardens. The only kind of tools resembling our machines, are their oftenly very ingeniously constructed, but always very simple instruments for irrigation of their fields. They have different kind of pumps in common with us, or perhaps all kinds in use in this country, even many kinds of chain pumps (that are patented in America as the invention of some Yankee) not excepted. As with us, they use often some lever, with a bucket at one end (a swipe), to raise the water out of wells or rivers. Or they have water-wheels, which being set in motion by the current, draw, by means of small vessels fixed to their periphery, the water to some gutter, in which it runs directly to the fields or to canals which often on long ways bring it to distant hillsides at some place down the river. So they have made their land very productive. In some parts south it bears crops without hardly any interruption, and has done so for hundreds and thousands of years without any detriment to its productiveness. Indeed they have to work much, but everything brought into account, not more than we. For it takes more work to raise a crop on a surface of eighty acres, that under good cultivation would well grow on eight. And if we bring into account our trouble in procuring new lands, after we have worked for some years and destroyed the fertility of our old ones, if we consider our better tools and labor-saving machines, we do more work and with less profit than they do. With them it is true, as we say. Little farm well tilled, little barn well filled.

Their farms being more like gardens, the garden vegetables are with them most extensively raised. Every European or American who has lived in countries where Chinese emigrants abound, that being especially the countries and islands of Farther India and Austral Asia, know well how they supply the markets with every kind of garden vegetables and how great is the abundance and diversity of them. And if an exhibition or something like our fairs could be inaugurated at Canton or other similar places, it is my opinion the Chinese would greatly excel us. We have no names for all their garden products, but they have at least nearly all those which are raised by us. They have turnips, carrots, asparagus, yams, potatoes, sweet potatoes, cabbage, pine apples, or bananas; they have beans, peas, onions, melons, squashes, cucumbers, gourds, and a great variety of kinds of each. Besides there is great diversity of fruits, not only those in common with us, but also many kinds of oranges and apples (which as their name says originally came from that country to the southern parts of Europe and America), limes, granate-apples, lichys, figs, olives, bananas, cocoanuts. Among their other trees the following are important. The cassia tree, that gives a kind of cinnamon, the tea-shrub, the camphor tree, from the wood of which by distillation the camphor is produced. The wood of this tree resembles, when worked into furniture, somewhat that of our black walnut, and boxes and chests, made from it, are extensively used and exported, for keeping woolen clothes in them; for moths and other insects which do not like the smell of camphor will never enter them.—They have a tallow tree, the fruits of which are covered with a mass resembling and used as the tallow of the ruminating animals; and a wax tree that produces some kind of wax resembling bees wax. There are several kinds of trees, that partly are poisonous, and produce the lac and varnish by which their furniture excels every other, except that made by the Japanese. The mulberry tree gives, in its leaves, the food for the silkworm.

In their art of gardening, they have a peculiar taste for the grotesque. Their gardeners make trees grow in all forms. They imitate those of animals of all kinds. They have not much land left for pleasure gardens, but being great friends of the Idyllic pleasures of rural life, each family has, if possible, a few rods of garden, and being desirous to crowd there as many trees and plants as possible, they prefer dwarfs and trees grown in fantastic forms. They have, for instance, oak trees, with acorns on them, growing in flower

pots. Being from religious motives very fond of water plants, especially the lotus Nymphaca nelumbo, the beautiful flowers of which, like the cross with catholics, are very oftenly used in Buddhistic theology, to signify nearly every perfection. They have, if possible, a diminutive fish-pond with small gold-fishes and lotus plants in them, in their pleasure gardens of less than half a dozen square rods.

Other products of their fields and gardens are tobacco and hemp for smoking, the leaves and seeds of the latter are mixed with tobacco to augment its narcotic qualities. For fibre they raise, besides hemp, also flax and urtica nivea, a plant from the fibres of which grass cloth, the best kind of linen known, is made, and cotton. They have a kind of cotton with yellow fibre, from which the cloth, called with us, Nankeen is manufactured. The other cotton goods, if dyed at all, have mostly a blue color, the indigo for which is generally raised by the cotton grower himself. A very useful plant of much influence in Chinese society, is the bamboo. They make from it mats, sails, they can build out of materials made from it in a short time whole houses, and they make every kind of household furniture from it, tables and chairs, bedsteads and sofas, carpets, boxes and chests, besides fans, umbrellas, buckets, pipe stems, etc.; teachers use it in schools and magistrates for enforcing the laws.

The cereals differ according to climate. In the southern parts they raise mostly rice. Besides that, they have several kinds of holcus, rye, American corn, buckwheat, several kinds of millet and that plant, not long ago introduced into this country under the name of Sorgho. (The word is certainly not Chinese, they could not even pronounce it.) In China this plant is called Kan Che. They manufacture all their sugar from it and even export some. They use ox mills with two vertical cylinders made from hard wood or stone and let the sap immediately from the mill by means of wooden tubes run into large iron kettles of the common spheric form, which are built into stone or brick furnaces.—Though our mills are similarly constructed and if made from iron, perhaps better, and though it seems to me that some of our evaporators are an improvement, yet we are not able, extensively, to granulate its sap into sugar. We know that their apparatus is very simple and yet as in many other things, they beat us, notwithstanding our more perfect tools and apparatus. Our Government once received very little thanks for making a great appropriation to procure new cuttings of sugar cane for the benefit of Louisiana and Texas sugar planters. Perhaps it would do more good if it would send some qualified person to China to learn from the Chinese how they make sugar from the Sorgho plant. It has done us a great benefit by procuring the seed of the Sorgho plant; it has said A, now led it go and say B. I do not believe that an honest man, who was capable to do the job, would require more than a few thousand dollars to go to China and live there some time. Perhaps by so doing he could import other useful plants, that would be of immense benefit to the agriculture of this country. And besides this, there would be much to learn. We are accustomed to procure all our information about agriculture from Europe, especially England; and when England takes snuff, America thinks it ought to sneeze. I do not despise English agriculture. Let us learn from them, and every other people, as I said before, like the bee, gather the honey of instruction and assimilate it according to our wants. But English kind of agriculture, being very perfect in England, cannot in all cases be imitated in this country. We have a very different climate. It seems to me, that we could, if we would, learn much more from the Chinese and adopt many things from them, because they have a climate resembling very much our own. By reference to the map we will see that New York has about the same latitude, and St. Louis is some degrees more south than Naples in Italy, but our climate is, and our vegetation and agriculture must be, accordingly, very different.—The summer may be about as hot, but the winter is much colder. There are some other differences, which prevent for instance the successful culture of European grapes in this country, though they grow in the open air in Germany, where the winter is about as cold as here. This peculiar climate goes as far as the Rocky Mountains. On the other side of the mountains the climate corresponds much more with that of the same latitude of Europe. China, which like our own country is situated on the east side of a continent and on the east side of high mountains, like it has extensive plains that do not much abstract the course of high winds of a hot or cold temperature, and no large inland seas, like the Baltic and Mediterannean, to temper them—a country in these influencial points identical with our own, must have a similar climate, and if that, a similar vegetation and similar agriculture. But China, like Japan, being now opened to us, must have many plants and fruit trees valuable for the people of this country, which should be imported. As regards domestic animals, there are too many men in China, that want to be fed, to have much food left for animals. Horses in China proper are very scarce. If they yoke animals to the plow, it is in most cases the ox or the cow. They do not keep milch cows, at least not in the south, where I have been. In that part they use as working cattle the East Indian buffalo or water ox which is very different from what we call buffaloes.—He is called water ox by the Chinese, because like the hog he lies down in the water, when the weather is hot, and is often with his whole body under it, while only his nose and eyes are above the surface. Besides they have a peculiar breed of small black hogs, which fatten very easily and give a very palatable meat. These and dogs and cats, the flesh of which is eaten, are the only quadrupeds raised by them extensively for food. To kill a cow or an ox they dislike nearly as much as the people of Hindostan, and all, though they eat dogs and cats, rats and mice, think it as much disgusting to eat beef, as we do with horseflesh.

They have many kinds of poultry. Our famous Shanghæ fowls come from the place of that

name and its neighborhood in China. Like the old Egyptians they artificially hatch the eggs of hens and ducks. Both of them are raised and consumed in enormous quantities. On holidays, which they celebrate every full moon and new moon corresponding somewhat with our Sunday (though nobody is bound by law to abstain from work), the poorest families kill and eat some kind of poultry. Thus at least in China that famous desire of good king Henrie quatre is fulfilled to the letter. CARL VOGEL.

Rhineland, Mo. Formerly Missionary in China.

FOX KNOLL.

"Plow, spread the manure from twenty to thirty cart loads per acre, on the furrow, cultivate or harrow faithfully, sow on grass seed and finish with a good roller, and see if it does not pay."—[*Exchange.*

The above hits the nail exactly on the head, avoiding the extremes—which is right—and giving us what will receive the approval of the large body of practical farmers.

It brings vividly to mind a field, years ago, treated substantially in the way above mentioned. It was a yellow knoll of about two acres; soil very light, and almost worthless, growing a wild, yellow grass, which we (boys) concluded took its color from the soil, and we called it fox-grass, and the knoll, fox-knoll. The ground was perfectly mellow; and it pleased us remarkably to work such soil.

We had a father then who was considered one of the best farmers in the neighborhood—and, says he, we must see what we can do with fox-knoll. We must put it in rye. Poh! it won't give anything, says one. It won't come up, says another.

The old gentleman smiled, and gave his quid an extra turn. So the team was started, and the boys had a good time. Run the plow deep; and deep it was; we kept it in to the beam. And there the yellow field lay "mellow as an ash heap."

As there was some sod; this had to rot. The field was therefore "let lay" for two months. Then—the latter part of August—it was given a good coat of manure from the barn-yard, which had lain open to the sun and rain during the season. There was some straw; some manure from the horse-stable; a very little from the cow-stalls: the whole was called "long manure." It was however not so "long" but that it could readily be plowed in, which was done at once, but lightly. Run the plow high, was the order now; harrow it with the plow. So the manure was "harrowed" in, to the no slight mortification of us boys, who would rather run it up to the beam. "Fox-hill" must have two coats of manure; one (the sod) under for the roots; one above, for the seat of the grain."

But the field had lost its beautiful, even appearance. It was still ashy—and real ashes seem to have been brought up in some places—with tufts of manure scattered in all directions. This remained for several weeks. The harrow was then applied, and the grain sown. When the harrow left it, it had a rough, manury appearance, not at all pleasant to view, we thought; but the parent called it "in order."

The rains came; the warm weather prevailed; and the rye made its appearance. As the fall advanced, every one said, "a miracle!" "what has been done to fox-knoll?"

When winter came you could positively not see the ground on account of the rye. The calves were turned upon it, and had a good time.—When spring came, fox-knoll was bleached, but not killed. It began soon to show green. And the best field of rye, if not of any grain in all the neighborhood, was waving on fox-knoll.—Grass was sown on the bleached surface in the spring, and fox-knoll has been a respectable field ever since—not by being left alone, however; other similar applications, with similar effect, were made. It is now a fair soil.

HEADERS.

ED. VALLEY FARMER: I noticed an article in the *Valley Farmer* on Headers signed, "Old Firkin." I came to the conclusion from perusing it, that he had not been acquainted with the Mayberry Harvester, or had some pecuniary attachment to a certain reaper which he specified in the article.

Headers were first introduced here about five years ago; it was the old kind of headers known as Haines' Illinois Harvester; it was a large, cumbersome and unwieldy machine, and since that time there has been but two or three of them introduced in this section of country. Last season was the first that the Mayberry Harvester was introduced in this section, and there were ten of them used in this neighborhood, all of them giving full satisfaction, being all that they were recommended. I purchased one myself and used it last harvest. I found it to be a well-made and well-finished machine, being light and simple in its construction and so arranged that it will turn and cut a square corner. I have followed farming in this section for many years, but I never gathered my harvest with so little labor and expense and saved it so well as I did last season with this header. It cost me about fifty cents an acre to cut and stack my wheat, and then I could get from twenty to twenty-five cents more at the mills for my wheat than that which was reaped and damaged more or less in the shock.

The Mayberry Harvester is a great improvement in many respects on the header; you can get any desired information by addressing J. C. & C. N. Mayberry, Rockford Ills. I write this

article speaking from my own experience for the purpose of correcting any errors with regard to the utility of the header, as I consider it a matter of great importance to the farmers in the great deficiency in help at the present time.

Trenton, Ills. H. A. Beadle.

COTTON CULTURE.

(Concluded from April No.)

Selection of Seed.—"The selection of seed is an interest not to be disregarded. We have been humbugged a great deal by dealers and speculators in this article, yet we would greatly err to conclude that no improvement could be made. We should, however, save ourselves from this sort of imposition, and improve our own seed, by going into the field, and picking each year from some of the best formed and best bearing stalks, and thus keep up the improvement. Great benefits may often be derived by changes of seed in the same neighborhood, from differences of soil, and occasional changes from a distant and different climate, may be made to great advantage.

Picking.—"The picking of cotton should commence just as soon as the hands can be at all profitably employed—say, as soon as forty or fifty pounds to the hand can be gathered.—It is of great importance not only to the success of the work, but to the complexion and character of the staple, to keep well up with this work, so that, as far as possible, it may be saved without exposure to rain. The embarrassments to picking when once behind, and a storm or heavy rain shall intervene, mingling it with the leaf and tangling in the burr, are just as great as to get behind in the cultivation of the crop, when much additional labor will be required to accomplish the same object.

"In the early pickings, when the seeds are green, some sunning is indispensably necessary; but, after some maturity and dryness, very little will be required. This must be determined very much by circumstances; but dew or rain-water should always be removed by drying upon the scaffold, before the cotton is bulked in the house. With proper care and attention, great improvement may be given to the complexion of the staple by a little heating in the bulk, extracting the oil from the seed, and imparting a slight cream to the color. This process, however, must be conducted with great caution and care, lest the heating proceed too far, and injury be done. It is easily checked by stirring and exposure to the air. It is an advantage to all cotton to lie in the bulk before ginning, and we doubtless often lose much of this benefit for want of sufficient house-room. Indeed, I think it a very common error in our plantation arrangements, not to build houses for this special object. The cotton, when ginned, ought to be so dry that the seed will crack when pressed between the teeth. It is often ginned wetter, but just as often the cotton samples blue. A gin should be used which will neither cut nor nap the cotton, but send out the fibre straight and smooth, so that when the samples are drawn, they will have the appearance of having been carded. This is greatly promoted by the largely increased number of brushes now added by the best manufacturers.

Packing.—"The packing should be in square bales; and, without reference to freight, or any of these mere incidental influences, I think the weight of the bale should be fixed at about four hundred or four hundred and twenty-five pounds—to be in two breadths of wide bagging, pressed until the side-seams are well closed, or a little lapped, and then secured with six good ropes, the heads neatly sewed in; so that, when complete, and turned out of the press, no cotton should be seen exposed. These packages should be nearly square, for the greater beauty of the bales, but, still more, for the greater convenience with which they may be handled and shipped, saving the necessity for tearing the bags, and giving a better guarantee that they will reach a distant market in good order."—[*Col. Chamber's Essay*, pp. 16–20.

Remark.—I do not pretend to endorse every position taken, and opinion expressed, in the above compilation. The writers are intelligent and responsible men, and have had personal experience in the matters about which they write. I have never lived in a cotton-growing region; and, therefore, have had but little opportunity of personal observation in the culture of this important crop. But, in addition to what has been given, I will venture a suggestion, based upon my general knowledge of the cultivation of the soil. One of the writers quoted speaks of rest, as "the grand restorer, and the rotation chiefly required in the cultivation of cotton." Now I venture to suggest a pea fallow, with gypsum and ashes, as probably much superior to "rest" for any soil. "Rest" can never restore to land what the crops are every year carrying away; and unless the rest is employed in the production of something which will collect organic fertility from the air, and improve the chemical condition of the mineral matter, which needs elaboration, it can certainly do but little for the ultimate improvement of the land.

We are always seeking after happiness, but find only its shadow. Sometimes happiness finds us.

CULTURE OF TOBACCO.

[Concluded from April No.]

CURING.—The process of curing is a matter of the highest importance. On it depends, to a very great extent, the market value of the crop. It should, therefore, be attended to with great care. The modes adopted vary somewhat with the end for which the crop is designed. "Tobacco for manufacturing purposes should be exposed to the air on scaffolds; and if ripe and sun-cured it will have that sweet, aromatic flavor so peculiar to good tobacco. * * * After cutting, it should be carried to the scaffolds and hung, about 8 plants to the stick, and closed on the scaffolds for the purpose of sweating, by which process the green color is expelled, and the tobacco becomes yellow, which is far preferable." It should then be removed to the barn, to be fully cured by firing. "If time will allow, and the weather is not threatening, I prefer housing the tobacco without scaffolding. It will yellow as well, crowded in the barn, as on the scaffold; and all danger of injury from rain is avoided, as well as the loss of some from the effects of the sun. * * It is carried from the field, crowded as closely as possible on the tiers, and permitted to remain from 6 to 8 days, or longer, until it is yellowed sufficiently; then it should be opened, and the sticks arranged in the barn for firing. The sticks should be placed from 6 to eight inches apart, and may be placed a little closer in the roof than in the body of the barn."

CHEMISTRY.—During the process of curing, tobacco undergoes important chemical changes.—Its peculiar properties are owing to the presence of several remarkable compounds, of which one called "nicotine," and another called "nicotianine," are most important. *Nicotine* is an alkaline substance, and has the form of an oily liquid when separated from other compounds. In its concentrated form, it is a most deadly poison; but when taken in the dilute condition in which it reaches the stomach in chewing, or the lungs in smoking "the weed," its effects are greatly modified. The quantity of nicotine varies in the different qualities of tobacco cultivated in the same region, and still more does it vary in that cultivated in different countries. The Havana has about 2 per cent of nicotine, hence its mildness. Virginia (best manufacturing) tobacco has 5 or 6 per cent, while the stronger varieties have about 7 per cent. The French tobacco has from 3 to 8 per cent of nicotine, according to the region in which it grows. *Nicotianine* is a more volatile substance than nicotine and is more odoriferous. The pleasant odor of good tobacco is due to this compound chiefly.

The nicotine and nicotianine do not exist in the green leaf, but are formed during the curing of tobacco, from substances already in the plant in variable quantities. If the leaves are dried very rapidly, these compounds are not fully formed; and if the heat is raised too high in firing, they may both disappear to some extent, by being either volatilized or decomposed. They both contain nitrogen, and, like all other compounds containing that element, are readily decomposed. Hence the firing should be commenced at a low temperature, which should be gradually increased, and may be advantageously suspended at night. The temperature should never rise above 120°.

Tobacco-barns should be closely planked, or in some way made close, having windows for ventilation, which may be opened or closed at pleasure. Smaller, and hence safer fires, will be sufficient in such houses. Curing yellow tobacco with charcoal at a high temperature, kept up day and night, is recommended.

"It is best to fire all grades of *shipping* tobacco, and cure it a dark nutmeg color. * * From 24 to 36 hours after cutting, if the tobacco is ripe—if not, from 36 to 48 hours, according to the weather—seems to be about the right time to commence firing. Begin with small fires, and bring the tobacco to a proper state, and then increase the fires."

STRIPPING, &c.—After the tobacco has been fully cured, the next step is to strip the leaves from the stalks, and tie them up in little bundles ("hands,") to be pressed ("prized,") into hogsheads for market. The two points requiring most attention in stripping are, first, to have the tobacco in proper "order;" and, secondly, to assort carefully, so as to separate the different qualities.

The tobacco is in "order" when the leaf, or rather the blade of the leaf, is sufficiently moist to be pliant, and yet the stems dry enough to break off readily from the stalk. This condition can be secured only in the beginning of a spell of damp weather. After the weather has continued damp for some little time, the moisture penetrate the stems, as well as the thinner parts of the leaves, making them too tough to be easily broken from the stalks, and rendering them liable to mould when wrapped together, or when the tobacco is laid down "in bulk." If the stems have thus become pliant, the tobacco is in "too high order," and must be thoroughly dried, and allowed to come in order again before the stripping can be done.

A large quantity may be kept in order for

stripping, by packing it down when in the proper condition, upon an elevated platform extended along one side of the barn. This is called "bulking." The tops of the plants must be lapped over each other in the middle of the pile, the lower end of the stalks being turned outward. The whole mass must then be covered up with straw, or something else, which will preserve it in order until it can be conveniently stripped, which is generally at times when the weather is unfavorable for out-door work.

The business of assorting requires both care and judgment. It should, therefore, be the business of the most experienced and trustworthy hands. It is accomplished chiefly during the process of stripping, but may be made more complete by the hands engaged in tying, attending properly to the sorting out of such leaves as do not properly belong to the quality upon which they are engaged. The number of grades or qualities must be determined by the purpose for which the crop is designed. Where the only object is to make the dark shipping tobacco, the best leaves are assorted, according to size and quality, into first and second quality of "leaf;" while the lower leaves of the stalks, together with any others that may be injured or ragged, form first and second qualities of "lugs."

If the crop is designed for the manufacturer, the color, as well as other qualities, must be taken into account. The dark and yellow colors must be first separated into two general classes, and then each of these again assorted according to their several "qualities."

When the assorting and tying have been completed, the bundles should be "bulked down," unless the stems are found to contain so much moisture as to be in danger of moulding. It should then be hung up on the sticks, and dried. It is always thoroughly dried before prizing.—Then, at the first favorable time before prizing, it should be again packed down in bulk. The bundles should be carefully straightened in packing down; and, when it is afterwards transferred to the hogsheads, the same, or still greater care, should be taken to have every leaf straight, and in its proper place. The hogsheads usually contain about 1300 or 1400 pounds.

The price of tobacco depends very much upon the skill with which it has been cured, and the care bestowed upon the assorting, tying, and subsequent handling.

The man who is ever doing, yet never done, will never succeed.

Interest a man if you would gain your point.

FLAX CLOTH.

We visited a friend the other day, and for the first time in many years we found the small spinning-wheel humming its old tune. There were rows of linen yarn hanging at the beam, and in another building the loom was in operation. There was already one large piece of old fashioned linen cloth woven. This was done by one of the daughters, while the other girls and the matron were spinning. This was a rehearsal of the old times. The war did this.

This same thing is practiced by others. And next year more flax will be raised than has been done for many years—and it will be dressed. Why not, with cotton at a hundred. There was a time when flax answered all purposes. This time is at hand again unless the war closes at once.

We need not advise in this matter. Necessity is the prolific mother of invention. She is already at work. And there can hardly be wanting a knowledge to raise and dress flax—more than there is in spinning it. This our mothers yet perfectly understand, and can soon teach the daughters.

But, cotton has given the impulse, and there is no need of our advice, urging its cultivation: a dollar a pound is sufficient stimulus, to say nothing of the necessity.

But flax is now being agitated; and we expect to see a good breadth sown in the spring. It may be sown in May, if necessary, though earlier is preferable. It requires pretty much the same cultivation as grain. A good, mellow soil is the thing. If rich, the flax will be better.

A Thing That Should Be Done.

Many farms have bare spots that will grow neither grass nor weeds. Grass seed is thrown away upon them. On such spots spread a little manure in the fall. Harrow in the spring, and sprinkle grass or clover seed upon them.—This will sod them over; or, if you wish to do the thing this season, harrow or rake the ground, sprinkle with seed, then cover with straw, and then follow with a light coat of manure (rotten manure) over the straw. This we have seen tried, and it proved efficacious. The two coats are a mulch, and the manure adds fertility. When once a footing is obtained, there is no difficulty with such spots afterward.

Wetting the Bark of Trees.—To aid the growth of a newly-transplanted tree, wet the bark occasionally. To do this, wind a rope of straw round the tree, and saturate the straw.

[Written for the Valley Farmer.]

IN PEACE PREPARE FOR WAR.

If this adage is good when applied to nations, it is better when applied to farmers. In order for the farmer to succeed he must prepare beforehand—he must take time by the forelock. Do not wait till you actually need a plow or other implement before you procure one. If you wait, it may prove too late, or the price may be enhanced, for everything rises as the demand increases. On several occasions I have been compelled to pay 25 per cent. more for things by not buying in time. Delays are dangerous, besides putting one to great inconvenience.

This is spring, and I suppose most farmers have laid in a supply of plows, harness, and things of that kind, used during the crop season—but, by-and-by harvest will come on. You should not wait till wheat and meadows are ready to be cut or mowed. Now is the time to buy or have repaired your cradles, scythes, reapers, mowers, rakes, forks, &c. You can get such articles much cheaper, especially if you have the cash to pay down. By looking around you, you can see what you will probably need; then go at once and get them.

Perhaps you will need some blankets or other winter goods next winter; now is the time to lay in such things. The merchants will be glad to get cost and carriage for nearly everything not in season. One of the best bargains I ever got in a store was by buying an overcoat and pants in June. The time of year for selling such things had passed, and the merchant let me have them at about cost. Solomon has said there is a time for all things, and so there is. That time is before you are bound to have or do anything.

In youth and middle age, prepare for old age. In the fall prepare for winter. Learn wisdom from the industrious bee—put that wisdom in practice. This living from hand to mouth fashion is not wise. Lay in beforehand a store of wood, provisions, timbers, rails, and everything you know you will need. It will not cost you any more money or labor, in fact not so much. Then what reason can we offer for our negligence—for this sin that doth so easily beset us? Much might be said on this subject. To the wise a hint is sufficient. A volume would not arouse some of us from our lethargy, or induce us to practice the plain teachings of wisdom.

S. D. CARUTHERS.

DISEASE IN FOWLS.—M. Jacque has it that when a robust bird becomes ill, it is caused by dirty water, or dirty houses, or by infection bred in the small spaces wherein they are confined, or by the lack of substance they would find if they were at liberty. When the disease is hereditary, kill the bird, for you cannot cure it.

HOW TO SOD BARREN SOIL.

I will relate a case of successful sodding of soil that was as naked as the road, never yielding anything at all. Many such spots are found, and they are considered useless.

Abraham Wagner, of Danube, N. Y., purchased a piece of land which had bare spots on one of its knolls. There never had been any grass upon it, nor the least weed. The hill was considered absolutely worthless. But Abraham thought different. Abraham is not a book farmer; but he has good judgment, and enterprise enough to carry it out.

He plows his whole lot, hill included. He sows it; seeds it down. But the hill was still barren. So Abraham goes and seeds over the naked spots, and immediately covers them with straw, and the straw with manure; the whole forming a coat of an inch and a half in thickness. This was done, I believe, in spring. At least when fall came, the bare spots were as well seeded as the rest of the lot. The next year a heavy crop of grass was cut from all, hill included. The second or third year (receiving in the meantime top-dressings of plaster, &c.,) the sod was turned, and an excellent crop of rye was raised, the bare spots producing as well as the rest.

The coat of straw and manure acted in the double capacity of mulch and manure, the mulch keeping the ground moist, and the manure imparting fertility.

With a little manure and a little clay added now and then, the fruitfulness of these once naked spots may be effectively retained. Otherwise the soil is simply worthless, i.e. in a barren state.

F.G.

TO CURE BACON.—The following method of curing bacon in England is described by a correspondent of the London *Grocer*:—

"The general custom in the eastern and midland counties is to remove the hair and bristles, &c., by immersing the animal (after it is slaughtered) in a tub of scalding water, when the impurities are readily removed. The system of scorching the pigs first, and afterward using hot water, has been adopted by several individuals for many years. The dead pig is covered with loose straw, which is set on fire, and the hide is slightly scorched: it is afterward immersed in hot water and scraped. The bacon prepared in this way has a peculiar flavor, and is much preferred by some; but the practice is rarely adopted on account of the trouble."

Ed. Valley Farmer: Can you, or some of the readers of the "Farmer," give some information as to the value of air-dried Tobacco, compared with fired Tobacco.

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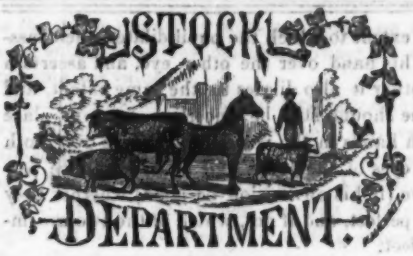


What Breed of Sheep shall I Keep?

In reply to the above question of a correspondent, the *Genesee Farmer* remarks:

The answer must depend on circumstances—on the character of the soil and the system of agriculture adopted, as well as the price of mutton and wool, or the taste and experience of the farmer.

During the past year, on account of the great demand for the army, coarse long wool brought an unusually high price. How long this demand may continue is uncertain. If we might calculate on anything like the present relative price of long and fine wool, we should be entirely safe in saying that the long wooled sheep would prove the most profitable in all sections of the country where mutton is in demand.

In saying this we do not wish to be understood as asserting that, leaving the mutton out of the calculation, more wool can be obtained at a given cost from the long wooled sheep than from the Merinos, for we do not think such is the case. Other things being equal, sheep consume food in proportion to their live weight; and as the long wooled sheep are fully double the size of Merinos, and as they do not yield double the amount of wool, it follows that leaving the mutton out of the question, a pound of wool cannot be produced from the long wooled sheep as easily as from the Merinos.

There can be no doubt of the truth of this proposition, if it is a fact—which we think will not be denied—that fine wooled sheep, in proportion to the live weight, produce more wool than the large wooled mutton sheep.

But of course it is not fair to leave the mutton out of the calculation. There is an increasing demand for mutton of good quality in our large cities, and the prices are approximating more closely to that of beef. In the English market mutton brings fully as high a price as beef, while with us mutton is generally one-third lower and frequently one-half the price of beef. As the quality of our mutton improves, there can be but little doubt that the price will advance. Now there can be no question that the large, long wooled sheep will afford more mutton in proportion to the food consumed than the Merinos; and where the principal object is the production of mutton, the large English sheep are unquestionably the most profitable breed to keep.

The advantage of the Merinos are: first, they produce more wool for the food consumed; and second, their wool brings a much higher price.

The advantage of the long wooled sheep are: first, they afford more mutton for the food consumed; and second, the mutton usually brings a much higher price.

Under ordinary circumstances it is not easy to determine which of these two classes of sheep are on the whole the most profitable. As before said, it depends much on the character of the soil, on the location, the system of agriculture, proximity to the market, and on the taste of the breeder. So far as our own taste is concerned we should prefer the large sheep, because we are better acquainted with their peculiarities, management, &c. We are of the opinion, too, that they are, in this vicinity, where there is an increasing demand for good mutton and where a mixed system of agriculture is adopted, the most profitable. We think this is the case when their wool sells at the same relative price as previous to the war.

At the present time, however, their wool commands nearly or quite as high a price as the fine wool; and as long as this is the case, the long wooled mutton sheep are the most profitable breed of sheep.

It may be asked what we mean by long wooled sheep. In England sheep are generally classed as "Long Wools" and "Short Wools." The former include the Leicester, Lincoln and Cotswold; the latter the different varieties of the South Down, such as the Sussex, Hampshire and Shropshire Downs.

In our previous remarks we have not made this distinction. We have alluded to them as long wooled mutton sheep. In comparing them with the Merinos it may be well to designate all the English as "Coarse Wools" and the Merinos as "Fine Wools."

We think that so long as the present price of coarse wool is maintained the English sheep are most profitable. But we would not advise those who have Fine Wools to dispose of them and purchase Coarse Wools; for by the time they have raised a flock of Coarse Wools, fine wool may and probably will be again in demand.

In fact, even now American manufacturers

are stopping work on army blankets and other coarse fabrics, and are running on fine wool; and a manufacturer recently remarked to us that we should do the farmers a great injustice by recommending coarse wooled sheep.

BLINDNESS IN HORSES.

HOW TO DETECT IMPERFECT VISION.

The novice in horse flesh may have good grounds for suspicion as to the existence of imperfect vision, or blindness, when the horse moves his ears in a constant and rapid motion, directing them in quick succession to every quarter from whence the least sound proceeds. His action is lofty and faltering, and he lifts up his feet and re-places them on the ground as if stepping over some obstacle, when there is actually nothing to impede his free progress. But, notwithstanding that these symptoms would be sufficient to create suspicion, there are other causes besides imperfect vision, by which the same or similar symptoms would appear in horses. For instance, if a horse with a most perfect pair of eyes was led from a dark stable into the blazing sunlight, the sudden contraction of the pupil of his eye would render it impossible for a few moments, for him to see but very indistinctly; hence, would arise the same symptoms of uncertainty in his movements, until the pupil becomes steady after the sudden contraction. The dilation and contraction of the pupil of the horse's eye furnishes the principal means of ascertaining whether the blindness exists in one eye or both, as this pupil varies in size, according to the degree of light which is brought to bear upon it. In a dark stable, the pupil is expanded, so that a greater proportion of the light falls upon the corner; but if the horse is led to the door of the stable, the pupil will contract so as to exclude more light than could be endured, and if suddenly exposed to the sun, the aperture will be all but closed; therefore, the novice should carefully notice these variations in the pupil, whether they contract or expand equally by the increase or decrease of the light —which he may readily perceive by advancing the horse's head to the open door or window of the stable, and backing him again into the darkness, until he is satisfied as to the perfection or imperfection of the horse's vision. But if the horse should be examined in the open air, the novice should first notice whether both pupils are of exactly the same size. After this, he should carefully place his hand, so as not to alarm the horse, over each eye, to shade off the light, and hold it there for a short time, noticing the extent to which the pupil dilates, then passing his hand over the other eye, and ascertain whether it also dilates to the same extent, and if he should still be uncertain, let him place both hands in the position of shades over both the eyes of the horse, and he will at once perceive (if his own vision be good) whether they are perfect, and if not, which of the two are imperfect.

I would suggest to all owners of horses the importance of admitting plenty of light and pure air into their stables; for I am satisfied that nothing tends more to injure the eyes of a horse and impair his vision, than dark or badly ventilated stables. Every man who keeps horses for the purpose of assisting him in earning his livelihood, would be neglecting a very important part of his business by inattention to the lighting, draining and ventilation of his stables, to say nothing of his imperative duty to treats his horses in the manner they so richly deserve.

I maintain that horses are as deserving of pure dwellings as the best of God's creatures. The efforts of our Society for the prevention of cruelty to animals, and the activity of its officers, is sufficient evidence of their philanthropy; but I have never known a conviction for shutting up a horse, and half smothering him, in the rank, pestiferous atmosphere of a non-drained or ventilated stable, and still this will be admitted by all men, possessed of a shadow of common sense, to be gross cruelty.

In every town and village in the United Kingdom may be found stables without drainage, and, even at this season of the year, with very little, if any, ventilation. I have, at various places in my travels, frequently been present at the opening of these badly-ventilated dwellings for horses, the first thing in the morning, as I have no doubt some of my readers have also; therefore, they will agree with me in saying that the atmosphere is sufficient to stifle many a man, and quite sufficient of itself to engender a variety of diseases among the miserable occupants.

There are thousands of stables in which the door is the only aperture for the ingress or egress of pure air; and even this is, in most instances, closed, both when the horse is at rest, and at work or exercise; thus he has, while in the stable, or rather horse oven, to breathe the same air over and over again, inhaling the ammonia which is constantly rising from the interstices of the irregular pavement, or mud floor, and this is not only a constant cause of misery

to the horse, but acting most injuriously on his eyes, entails a serious loss to his owner by decreasing his value.

There are few respectable builders, now-a-days, who do not understand the erection of well ventilated stables, but where owners of horses cannot afford to have their old stables re-built, they might, at least, break out windows to admit light and air, and also at a trifling expense, drain the floors; and thus, by keeping the air cool and sweet, they would, to a certain extent, neutralize the effects which a stifling and impure atmosphere will sooner or later entail upon their horses.—[*Ballinlasloe, in London Review.*

HORSES vs. OXEN FOR FARM WORK

We take the following from the report of the Committee on Farm Horses for the Middlesex Agricultural Society for 1862. The comparative advantages of horses and oxen for farm work, is a subject which deserves consideration. We give the extract, however, without endorsement or comment.

"We think it is a mistaken idea that, on rough farms and for certain kind of work, oxen are better than horses. If a farmer makes a good selection of horses, and has a proper pair for heavy work, they will do more of any kind of work, on any farm, however rough, than the best oxen. A good pair of horses will plow in grass land where one yoke of oxen cannot; and if they are well taken care of and well driven, they may be used ten hours every day, however warm it may be, and they will do one-fourth more plowing than the best oxen. All farmers know that in spring, when warm weather first comes, it is necessary to be very careful with oxen, especially if they have not been worked much in winter. There are many days when they cannot be worked all day, and they must be driven slow. With a good pair of horses it is different; they may be taken out every day, and in any field where one yoke of oxen can plow, used all day, and plow much more than the oxen. All plow-men know that a team that can move reasonably fast will turn a sward better than a slow team. If the land is free from stones, there is little danger of the team going too fast. A man driving a horse team, with reins, has better command of his team than he can have over an ox team; they are quicker turned and more easily brought back to the work, if they start wrong. In carting, one horse will do almost as much as a yoke of oxen. If the distance is great, the horse will save much time in going and returning, and will take much more than half as large a load. The great advantages of oxen are, that the first cost is much less; the cost of harness is less; in case of accident, where they would have to be killed, they can be sold for beef. Still, we think that where the team is kept through the year, the advantages of the horse team are much greater than the disadvantages."

Freedom for the Horse.

A horse, like a man, wants freedom. He will thrive upon it, he will be much healtheir. Confine a horse to his stall, as is usually done, and he will suffer; he will suffer in many ways: He will stand longer than he should, thus tiring and hurting his legs—he will not get the exercise which he needs to keep him compact and in good heart.

Some men let their horses loose in the stable, with partitions that they cannot reach each other. The horse then is comparatively his own master. You will find him walking about if his room is large enough; or, he will lie down and rest: he will seldom stand for any length of time.

So in driving. A horse should have as much freedom as possible in harness. Harness light, and as few pieces as will answer the necessary purpose of draught and keeping in hand, with now and then the permission of a little prancing to give play to his mettle, always keeping him easily and willingly in hand. Of course a "working horse" can have but few of these advantages in harness. Still, out of harness he is on equality with the fancy horse; and then he needs the humane treatment all the more.

FACTS FOR FARMERS.

It will cost about forty dollars to keep a cow the year round, varying of course according to price of feed and quality of cows.

Some hogs eat a third more of food to make the same amount of pork that others do. This is owing to the breed. This is the case especially with hogs, but more or less with all other stock.

About nine quarts of milk make a pound of butter.

It costs more to keep a good butter-making cow, than a poor one, extra butter requiring extra food. Some cows devote the extra feed to make up flesh instead of butter; but flesh equal in both, the cow that makes most butter eats most, so that there is not so much gain in a "good" cow as people suppose.

A mulch is a protection to the fields in summer; snow in winter.

COLIC IN HORSES.

Colic in horses is a very common disease, and if taken in time may be easily cured in most cases. It is not unfrequently confounded with inflammation of the bowels, but is easily distinguished as follows: Colic has no increase of the pulse, which is not over fifty a minute; the animal often rolls; the disease intermits, and there is but little fever. With inflammation of the bowels, there is much fever; the pulse is sometimes a hundred a minute, the attack is gradual, and the disease does not intermit.

When colic arises from bad food, a pint or so of a solution of saleratus will often afford entire relief. As it assumes more of a spasmodic character, peppermint and ginger may be added. We have used with entire and immediate success, a small spoonful of saleratus, the same quantity of ginger, and a tea spoonful of peppermint, added to a pint of nearly boiling hot water, and given from a junk bottle. Powdered charcoal is one of the best and safest medicines for any disease resulting from derangement of indigestion—and two to three ounces or more mixed with water, may be given at any time with great advantage. Inflammation of the bowels is generally increased by irritating medicines. A drink of slippery elm, hourly, and giving the horse but little food, and letting him rest, is safe treatment.—[*Ex.*

COLT FOUNDER.

ED. VALLEY FARMER: Sir, you will confer a favor on many of your subscribers if you or some of your readers will give us some information in regard to a disease which is very prevalent among our mares, which is called colt founder here.

I have a very fine blooded mare which is now laboring with it. She was first taken with a lameness in left shoulder, which remained for two weeks; it then shifted back to hind legs with a general stiffness, some loss of appetite, bowels costive and feverish, legs alternately hot and cold, but continue longer cold. The animal has great difficulty in getting up; mouth very hot and dry. When standing up, it seems she is in great pain, first lifting one leg, then the other. One week ago she foaled a very fine colt, and seemed to get better for a few days, but has since been getting worse—in fact it is difficult for her to move about.

Hoping that you can give me some information, I write you. D. C. BASEY.

Brunswick, Mo.

RING-BONE.—Ring-bone is hereditary, says the horse doctor. It is also caused by hard strains. If you wish to propagate horse flesh, avoid blood that has frequent ring-bone.

SHEEP.

Millions of wool are imported every year.—What does this show? It shows that the price of wool is high among us. It costs to get the wool here; and yet there is a profit to bring it to our market.

Here then we have a home market for one of our easiest-made staples. And yet we are backward, letting foreigners get the start of us.

Now, it is the easiest thing in the world to get sheep, shear them, and sell the wool. If you are poor, buy a few sheep, and propagate from these. This any one can do. Be sure to get the best kind of sheep, Merinos for wool, and Leicesters or South Downs for mutton, or some other good breed.

And when once in the business stick to it.—Give the mitten to the sheep buyer at all times. Don't let him tempt you at all, however big his price may be. Tell him you will buy. But buy only the choicest stock, which he is not likely to have.

Then, think of the benefit your land receives by keeping sheep.

AMOUNT OF LABOR FOR A HORSE.—It is sometimes asked how much labor a horse ought to do. The best horse judges will tell you, enough to keep him in good condition. If you work him so as to get him thin in flesh, you work him too much. We have known horses work well at thirty years of age; but they had never been over-worked. In the end the same amount of labor will be got out of a horse. It is much with a horse as with a man; you can over-work both, and prematurely send them to the grave.

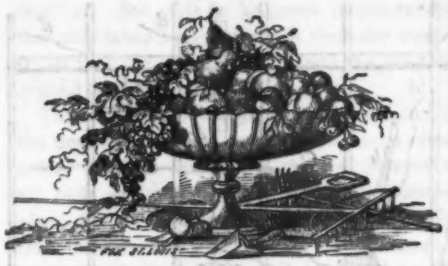
Feed for Young Stock.

It should be recollected that oats is a grain that forms muscle faster than any other fodder. It is therefore adapted to young stock, which are required to grow; also for horses, which are kept for their muscle. And yet we see farmers feed their young stock—calves especially—with roots, which are poor flesh-makers, as they contain little of the nitrogeneous property. There is nothing that will tickle a calf or a horse like the oat. It adds animation as well as muscle. Yet "all oats" would not be well. Some roots may be mixed with advantage with almost any kind of provender. But the largest proportion should not be roots where flesh is to be formed.

SHEEP—Ed. Valley Farmer: I wish to buy fifty Cotswold Sheep, either full blood or with Merino cross. Can you tell me where I can get them?

Alton, Ill. J. T. RICE.

[Any one having the above stock to sell can write to Mr. Rice as above.]—Ed.



HORTICULTURAL.

[Written for the Valley Farmer.]

Treatment of Vineyard the Third Year.

BY LOUIS L. KOCH, GOLCONDA, ILL.

Third Spring—The Espalier.—Although not condemning the old custom (and which is still resorted to), that of giving proper support to the vine by posts; yet, from the third year on, I prefer an espalier as by far more adapted to all its wants, of which you will find a most detailed representation in the hereto attached engraving, in reference to its different sizes and relations.

Such a necessity becomes evident from the espaliers with cross laths, as we find them in our laid-out vineyards in this country. Yet, while they are far superior to the mere post, they still do not answer the purpose, in the absence of up-and-down, or erect laths, as noticed in the engraving. These small up-and-down laths are indispensable in order to raise a vine in its symmetry and beauty; to support it, as its branches extend from year to year; and, when heavily laden with fruit in autumn, to give it air and sun, as well as to be able to most perfectly employ its entire vitality in harmony with its own powers. The increase of the harvest gained by this object renders the additional trifle of expense altogether insignificant. In order to elucidate the respective engravings, let the following explanations suffice.

Use for the erect standing posts smooth rails of the most possible hard timber, seven feet long and four inches square. Cedar (not known to rot until thirty years old) is the most desirable; next is Black Locust, which partakes of a similar quality, being able to withstand the rot at least twenty-five years. Both of them being rather costly, and difficult to obtain, Sassafras, Mulbery, Black Walnut, or Post Oak might be resorted to. The lower ends of these posts are to be roughly pointed, and to be rammed in one and a half feet by means of a heavy maul, to be set at a distance of six feet apart, so that the post will remain five and a half feet above the ground. If the soil should be two hard or stony, or if other obstacles should present themselves, then with a well constructed post auger, bore holes, which probably will make it a little more expensive. To, and across, these posts take and nail two (perhaps half as heavy) smoothly split rails six and a half feet long (say of White Oak), the lower one and a half feet and the upper three and a half feet high or elevated from the ground. They are to be six inches longer than the given distance between the posts, so as to give these rails three inches support on each side.

Nail on these cross-laths the already named, up-and-down laths, five feet long, two inches wide and a half inch thick, for which purpose white oak split will answer, while they are to be one foot apart from each other, and the lower part six inches from the ground, so that the upper end of them will nearly reach up to the posts. Such labor having been completed upon the espaliers, there will be scarcely any repairs necessary for the first eight years. A strict observance of the dimensions will impart however such a pleasing aspect to the entire structure, and answer so well all the demands, any beautiful and expedient culture of the grape vine in every desirable form and execution may suggest, and, agreeably to the width of the terrace, will afford such free access to the sun and air from every side to the very ground, rendering all essential labor upon the vine feasible, while it guarantees the highest possible yield, when the espalier afterwards presents itself in the fulness of its culture, than from any system of grape vine culture under the same dimensions can be realized.

Such an espalier properly treated will exhibit in the fall of the year, when laden with grapes, a most charming aspect, while in the meantime it most abundantly compensates all the pains taking it incurred.

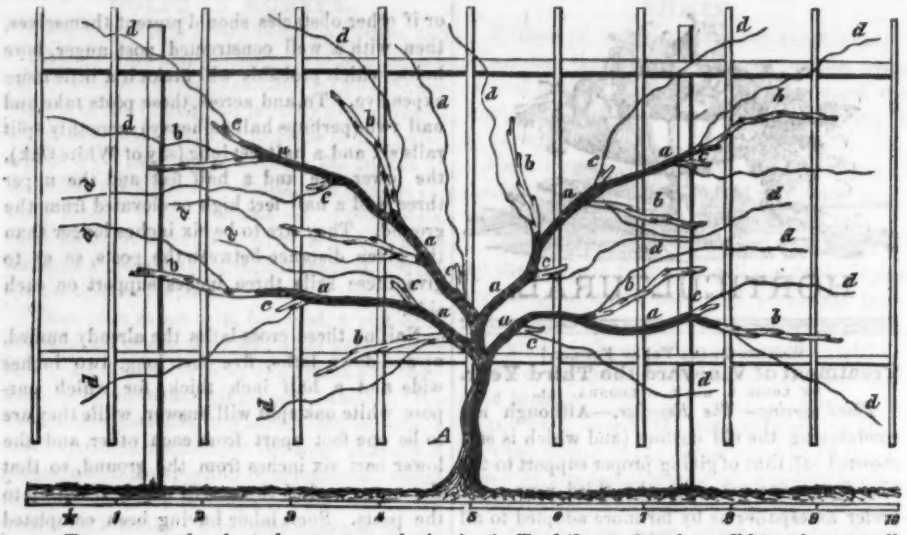
The names of the several parts of the vine, in connection with the design, are as follows:

The vine comprehends all the several parts of the plant, unto the very ends of the summer branches, or such as have been produced in the at any time present summer.

A. The stock is that part of the vine which reaches from the ground to the lateral branches.

a. The lateral branches, are likewise those of the old wood, and form the proper basis of the vine.

b. The *bearing branches*, are such as made their appearance during the last year upon the branches described under *a*, and are to bear fruit during the ensuing year.



c. Tenons, are also branches grown during the preceding year, and their object being to produce wood rather than fruit, they have been cut back to one or at the highest two buds or eyes.

d. Wood branches, may be found at the lower bud of each bearing branch and tenon, and are designed to furnish the wood for the new branches of the present summer.

Some parts of the vine omitted for want of room in the engraving, will now receive our attention.

e. Bearing rods, are such as have grown upon the bearing branches during the ensuing summer, or upon the tenons in case they have retained two buds, like unto the wood branches, but were reduced to three leaves above the last grape, as they are calculated merely to bear fruit.

f. Layers, are those young branches grown forth upon the different summer branches, the wood branches as well as bearing rods, which young branches are situate between the leaf and fruit bud, and are entirely removed on the latter and partially on the former.

g. Fruit Buds, are those buds that form in the course of the present summer between branch and leaf, from which during the next year the young branches break forth with their grapes: the more feeble and imperfect of which are frequently without any fruit and are for that reason called wood buds.

h. Reserve buds—Nature has furnished the grape vine with these in order to make amends for any of the buds grown previously that might be destroyed; they are at first scarcely visible, but make their appearance in the given case close by the latter.

i. Tendrils, are found on all branches, usually opposite to a leaf, but always to a grape. Clinging to any converging object, affording support to the tender branch or the ponderous grape, so enable the vine, abandoned to its own natural growth, to reach the highest tree top, and there in airy heights to bring its precious fruit to perfection.

The cultivation of the soil from this time on, and for all after-times, demands the same requisites as in the years previous, with this only difference that, hereafter, on each approaching spring, it will require more thorough and deep cultivation, which (where to plow will be found to be impracticable,) may be done by a large hoe, as is the practice in the wine countries on the Rhine. This hoe is to be made of hard one-third inch steel, twelve inches long, eight inches wide, with two prongs each three inches wide, and to extend several inches from the handle, the ends of which prongs again divide into one inch prongs, that is, one inch from the bottom of the hoe. A strong handle, three feet in length should be well fastened to the same at an angle of 50° to the hoe.

The application of such an implement, highly adapted to this end, calls indeed for a muscular arm, but fulfills completely the desired object, and may with equal effect be employed even in very stony ground, turning the same some four inches, and thus exposing it to the atmosphere. A common garden hoe will suffice in the subsequent cultivation of the soil, in order to preserve it clean and mellow, to be repeated as often as necessary, and should be attended to two or three times during the summer according to the

weather. But it is to be much recommended that this labor be performed in clear dry weather, so that the weeds may die, and the loosened ground may the longer stay mellow.

The treatment of the young vine itself during the present year is still very simple in its character. Besides careful and renewed removal of all buds and shoots produced in an improper place, the two uppermost buds, designed for future laterals, are left growing to the time of trimming in the fall, carefully fastened to the espalier in their entire length with all their layers.

Third Fall.—In the fall, these two branches are cut back to four buds, and the young vine now presents a stock (A.) one and a half feet

high with two laterals, perhaps one foot long. Needy branches furnish the exception, when each should be cut back to two buds. More of a trimming on account of a strong growth is much less needed. In the trimming or cutting, regard should be had to the greater or lesser distance between the buds, which is known frequently to differ very considerably.

If the vine were originally designed to be cultivated in the manner of post culture, I would leave upon a short stock four of the upper buds, of which I would in the fall reduce the two feebler ones to tenons, and the other two to branches containing about four buds.

TREATMENT FOURTH YEAR.

Fourth Spring.—The young branches of the stock three years old, each having been cut back

to two or four buds, the latter as has been remarked, depending upon circumstances, there yet remain, when they branch out on each side, two of them, and if possible the upper and lowermost, while the remaining two are broken off. For safety sake, this operation should be performed only when there is no more late frost to be feared, and in no case before the full development of the buds.

The four branches produced from these buds each of them rendering in the fourth year, after their own natural law, two grapes, thus eight grapes as the first tribute of this young stock, and which without any hinderance whatever to its prosperity may be left undisturbed upon the vine to full maturity, as we let them grow in the last year until fall cutting, and require no further treatment or attention, than afterwards to carefully tie them to the espalier at such an angle as the laterals of the vine may be desired to occupy. To tie these young summer branches I find our so-called gunny-bag thread best suited.

Fourth Fall.—These already very luxuriant four branches, grown from the spring buds are conditioned by previously suggested circumstances and must be cut back in the fall to three buds, when we are invited to behold the young

vine in its fourth fall with its stock (A), with the beginning of the latter laterals (*a*.) at every stop of the last year wood (now laterals) a young branch bearing three buds.

TREATMENT FIFTH YEAR.

Fifth Spring.—In this year the treatment is also the same as in the preceding. With a sim-

ilar regard to time, the middle bud of the three on these four young branches spoken of (when treating of the last fall cutting), is broken off, and now the upper and lower ones left to grow. There remain accordingly eight buds upon the vine, from each of which one branch is produced, bearing two grapes, consequently sixteen grapes; say at one-fourth pound a bunch, it wll be four pounds of grapes as the yield of the fifth year. These young branches too are treated until the next fall as they had been in the past year, and, if growing too luxuriantly, may be reduced with all their layers in the fall to some extent, which will tend to ripen their wood so much earlier, without interrupting the circulation of its sap.

Fifth Fall.—In the fall those four young branches most approximate to each lateral (*a*) are cut

back to two buds, while those further above to three. The vine exhibits now in its continuing development the stock (A), four laterals (a), each of which laterals again display a young branch bearing two buds on the inside and three on the outside.

AMERICAN HORTICULTURE.

The following extract of an article in the *Atlantic Monthly*, may convey to our readers a clearer idea of the details and extent of garden seed culture in the United States than heretofore entertained. Bloomsdale, the estate referred to, is the seed farm of David Landreth & Son, a firm long known in this city and throughout the West.

Though our sketch of the present state of horticulture among us is quite imperfect, affording but an indistinct glimpse of the ample field which invites our view, it would scarcely be pardonable, were we to overlook a branch of rural industry in which horticultural success is interested, and without which the pleasures and family comfort of rural homes would be greatly abridged. We refer to garden seed culture. It may be that the purchaser of a paper of seed for the kitchen garden seldom stops to consider the minute care which has been required to secure its purity; most probably, in many cases, he makes the purchase as though it were the mere product of mechanical skill, which, after the machinery is perfected, and the steam engine has been set in motion, turns out the finished article, of use or ornament, with scarcely an effort of mind to direct its movements. Not so in the production of seeds: many are the hours of watchful care to be bestowed upon it, and stern and unyielding are its demands on the skilled eye and the untiring hand. It is because in some cases the eye is not skilled and the hand often tires, that so many seeds of more than doubtful worth are imposed upon the market, filling the village and cross road shops with the germs of disappointment. The history of the seed culture in the United States is not without interest to those who, like many readers of the *Atlantic*, reside in the quiet country; to every family thus situated the certainty of obtaining seeds of trustworthy quality—certain to vegetate, and sure to prove true to name—is of more importance than can be appreciated by those who rely on the city markets, and have at all times and seasons ample supplies of vegetables within easy reach. On looking round for some individual establishment which we may use as the representative of this branch of industry, we naturally turn to Bloomsdale, as the most prominent and widest known of seed farms; and if the reader will join us in a trip thither, we shall be pleased with his company, and perchance he may not wholly regret the time occupied in the excursion. The period we shall choose for the visit is the close of the month of June.

On a bright day we take our seats in the cars at Jersey City, provided with the talisman to insure an attentive reception. Onward we whirl through fertile fields and smiling villages; Newark, Brunswick, Princeton, are successively passed; shortly we reach the Delaware at Trenton; a run of a few miles through Penn's Manor, the garden spot of the Proprietary Governor, brings us to Bristol, the station from which we most readily reach our destination. As we approach the grounds from the front, a prominent object meets the eye, a noble white pine of gigantic proportions, somewhat the worse for many a winter's storm, but which still stands in all its majestic grandeur, as it has stood whilst generations have come and passed away. On entering the premises, we find ourselves in the midst of a lawn of ten acres in the English style. To enumerate the various trees, in groups or single specimens, which most invite our notice, would interfere with the main object of our visit. We have come for a special purpose, and we can only allude to a very few of the species to which our attention may be supposed to be directed. A white spruce, in rich luxuriance, measuring, as the branches trail upon the sward, upwards of sixty feet in circumference; the Himalayan white pine, with its deep fringe-like foliage, twenty-five feet in height; the Cephalonian fir, with leaves as pungent as an Auricaria, twenty feet high, and many specimens of the same kind of nearly equal magnitude; yews, of more than half a century's growth; a purple beech, of thirty feet in height, its branches as many in circumference, contrasting with the green around; numerous specimens of balm of Gilead, silver firs, and Norway spruces, unsurpassed in beauty of form, the last presenting every variety of habit in which it delights to sport: these are some of the gems of the lawn. But we must hurry onward to the practical business in view.

The harvest, which, in seed-culture, lasts for many consecutive weeks, has just commenced. The first important crop that ripens is the turnip, which is now being cut. The work is performed by the use of grass-hooks or toothless sickles; stem after stem is cut, until the hand is full, when they are deposited in canvas sheets; as these are filled, boys stand ready to spread others; men follow to tie up those which have been filled; others succeed, driving teams, and loading wagons, with ample shelvings, with sheet-ful piled on sheet-ful, until the sturdy oxen are required to test their strength in drawing them to the drying-houses; arrived there, each sheet-ful is separately removed by rope and tackle, and the contents deposited on the skeleton scaffolding within the building, there to remain until the seed is sufficiently cured and dry enough to thresh. These drying-houses are buildings of uniform character, two stories in height and fifty feet square, constructed so as to expose their contents to sun and air, and each provided with a carefully laid threshing floor, extending through the building, with pent-house for moveable engine. When the houses are full and the hulm in a fit state for threshing, the engine is started and the work begun. One man, relieved by others from time to time, (for the labor requires activity, and consequently is exhausting,) feeds the thresher, which, with its armed teeth, moves with such velocity as to appear like a solid cylin-

der. Here there is no stopping for horses to take breath and rest their weary limbs—puff, puff, onward the work—steam as great a triumph in threshing as in printing or spinning. Men and boys are stationed at the rear of the thresher to remove the straw, and roughly separate the seed from the shattered hulm, others again being engaged in thrusting the dried crop from the scaffolds, and placing it in suitable position for the feeders. When one drying-house has thus been emptied, the engine is removed to another; the same process is pursued until the circuit of the buildings has been made, and thus the ceaseless round (ceaseless at least for a season) is continued. As soon as the crop in the first house has been threshed, the work of winnowing is commenced, and skilled hands thus engaged follow in the track of the engine. As each crop is cleaned and put in merchantable order, it is placed in bags of two bushels each and carried to the storehouses and granaries, there to await a requisition from the city warehouse.

We have just witnessed the process of saving the crop of turnip-seed. And how much may that reach? is a natural inquiry. Of all the varieties including the ruta-baga, about one thousand bushels, is the response. We should have thought a thousand pounds would supply the entire Union; but we are reminded it is in part exported to far distant lands. And what is the crop so much like turnip, but still green, and apparently of more vigorous growth? That is one of the varieties of cabbage, of which several standard kinds are under cultivation. Another adjoining is radish; still another, beet; and thus we pass from kind to kind, until we have exhausted a long catalogue of sorts.

Let us stop our walk over the grounds for a few moments, taking seats under the shadow of a tree, and make some inquiries as to the place itself, its extent, the course of culture, the description of manures used, etc. Our cicerone assents to the proposal, and proceeds to answer our general inquiries. Bloomsdale contains in round numbers four hundred acres; it has a frontage on the Delaware of upwards of a mile, is bounded on the west by the Delaware Canal, and is divided into two nearly equal parts by the Philadelphia and Trenton Railroad. The soil is a light loam, easily worked, suited to rapid percolation, admitting of labor immediately after heavy rain, and not liable to suffer by drouth. The manures used are principally crude, obtained from the city, and landed on the premises from shallops continually plying, laden with the "sinews of farming." Street scrapings are more used than stable manure; bone-dust and guano enter largely into the account; and the aggregate annual expenditure foots up a sum almost equivalent to the fee-simple of an ordinary farm. The culture is that denominated drill; but of course much of it is simply straight lines drawn by the plow, in which the roots for seeding are planted by hand. The ground, with the exception of the lawn and a portion occupied from time to time by grass for home use, is divided by wagon-roads into squares and parallelograms; cross fences are not used; and each crop forms a distinct feature, accessible at any stage of growth. The several varieties of each kind, as, for instance, those of turnip, cabbage, beet, lettuce, are planted widely apart, to guard against possible admixture; but the chances of that result must be much less than is popularly supposed, efforts having been used experimentally to test its practicability, and that between kindred closely allied, without success. Although the extent of the grounds would appear to be formidable, even for a farm conducted in the usual mode, it is insufficient for the demands on the proprietors, without diligent exertion and prompt re-cropping, two crops in each year being exacted, only a small part of the land escaping double duty, the extent annually plowed thus amounting to nearly twice the area of the farm. The heavy hauling is performed by oxen, the culture principally by mules, which are preferred to horses, as being less liable to injury, and better adapted to the narrow drill culture practised.

The seeds of Bloomsdale have attained a world-wide reputation, and, to quote an expression used in reference to them, "are almost as well known on the Ganges as on the Mississippi or Ohio." They are regularly exported to the British possessions in India, to the shores of the Pacific, throughout the West Indies, and occasionally to Australia. The drier atmosphere of this country ripens them better than the humid climate of England, adapting them to exportation; and it is no slight triumph to see them preferred by Englishmen on English soil. At home, thousands of hamlets, south and west of Philadelphia, until interrupted by the war, were supplied with Landreth's seeds. The business, founded nearly three-quarters of a century ago, is now conducted by the second and third generations of the family with which it originated. Thus has success been achieved through long and patient industry steadily directed to the same pursuit, and a reputation built up for American seeds, despite the want of national protection.

THE CURCULIO.

Ed. Valley Farmer: You say in your abridged list of this spring that the curculio destroys all your plums. I saw an article some time since (I think in the Philadelphia *Saturday Evening Post*) stating that a band of wool around the trunk of the tree was a sure preventive from that little pest. I have not had a chance to test it, as there is no bearing trees in this neighborhood that I know of. I planted ten last spring on the strength of it.

The writer stated that he had tried it three years, and in the last year he had tested it fairly; that he tied it on one tree as soon as the blossoms was off and on others at different times through the season, and left one without, and that there was not a plum stung on the first and but few on the second; while the one left without, did not ripen a single plum; he also stated that although they have wings and can fly, they seldom if ever make use of them in ascending the tree to lay their eggs. C. T. Smith.

Trenton, Clinton Co. Ill. March 28th, 1863.

[Written for the Valley Farmer.]

CITY AND SUBURBAN GARDENS.

For covering bare walls in city gardens, where the grape is not desired, the following plants may be used, which will not require a trellis, the plants themselves clinging firmly to the walls, by means of their aeriel rootlets.

The common native Trumpet Vine, *Bignonia Radicans*, is a rapid and immense grower, and quite pretty in flower or foliage, and will do well in any sunny or a somewhat shady situation.—Bignonia Grandiflora has larger flowers than the preceding, but is somewhat tender. Bignonia Capreolata is a beautiful species, a native of the Southern States, and cannot probably be procured in the nurseries, it is quite rare in cultivation.

Few climbing plants, to our notion, exceed in beauty of foilage at any time, but especially in the fall when it has put on its rich scarlet hues, the common American Ivy, Ampelopsis Quinquefolia, which will cover any amount of wall in a short time, and cling to it with great tenacity, requiring only a damp soil for its roots, and letting the top take care of itself and run where it likes on the wall. Ampelopsis Bipinnata, or Pepper Vine of the Rocky Mountains, clings by tendrils, and is even more beautiful, having masses of finely pinnated and glossy foilage, with a profusion of blueish-black berries, succeeding a very modest looking flower. While for the north or west sides of damp stone or brick walls, very shady situations, &c., there is "that dainty plant the Ivy Green;" this fine plant is not grown half as much as it should be, indeed it can scarcely be said to be grown at all, for it is seldom seen on the walls of our city anywhere, yet if the proper situations were chosen for it, it would doubtless do well; its worst enemy is the sun in winter after being frozen stiff; keep it from the sun by all means; hence choose the north walls, or otherwise shaded places, and, if damp so much the better, as well as a damp soil for its roots.

The following kinds of climbing shrubs all need a trellis to climb on, but are well adapted for covering bare spaces of wall, Glycine Sinensis or Chinese Wistaria is exceedingly elegant, with its pendant clusters of lovely blue flowers, produced in profusion. Glycine Frutescans is less showy, but well worth growing; the newer varieties, Magnifica and Alba, I have not seen, but if they surpass the Chinese they must be very beautiful. Celastrus Scandens or Staff Tree, and the native, is a very handsome climbing shrub, so also is the large varieties of hop, Humulus Lupulus; these with the different varieties of Honeysuckles and Climbing Roses will form a sufficient variety for our purpose to suit all aspects and situations.

All the above climbing shrubs are well adapted for pillars or columns, and to our mind show off to better advantage that way than any other. A good support or pillar may be formed, by having a stout square post twelve or fourteen feet long, bored with holes through both sides, and round staves thrust through, projecting a foot or eighteen inches all round. A rude or rustic pillar might consist of a cedar or other tree, with plenty of branches all round and up it, cut off as near the above lengths as may be, either to be firmly set in the ground like a post to tie the plants up to.

C. S.

Why Trees Sometimes Die.

ED. VALLEY FARMER: Some things are too good to pass unnoticed, and I think the following incident of that nature:

One of my neighbors—one of the most successful of us—he has the best farm—entered into an argument that agricultural publications were a nuisance, no man could follow them unless he farmed with a capital of forty thousand dollars, they were not fit for poor men. Great was the fall of his Babel, if he had known it. In a few days he went to the same person with whom he had found fault for investing his dollar so foolishly, and said, "Will you give me those pear trees you promised?" The answer was, "Oh, yes." "Well, what are you doing?" "Going to dig them up." "Oh, nonsense—can't you pull them up?"

They were pulled up.

"Well, here's a quince—do you want it?"

"What's it good for?" "Preserves, &c." "Yes, I'll take it."

The quince was dug up. As soon as the operation was performed, the wise man took hold of the quince bush—it had very fine roots—and struck it hard against the rails of the fence.

Says the man who had given it, "What are you doing?" "Only knocking the dirt out." The questioner answered, "I see you know nothing about trees," and remarked to the writer afterwards that this accounted for the poor success he had in planting out about sixty trees a year or two ago, not one of which lived. It is certain that this successful farmer will continue to depreciate all scientific improvements.

J. M. D.

GRAFTING THE GRAPE.—A correspondent relates his success in performing this operation, which was a most gratifying one. Grapes grafted with the Delaware in 1861 bore in 1862 the following crop; twelve vines in one row, matured over a bushel of very large and luscious fruit, besides furnishing about fifty unusually fine layers. The writer says—"Here is proof positive of the value of the art of grape grafting; a saving of two or three years of time, no little expense in border-making, besides the cost of the vine, which is not a trifle to most people, when the best are ordered. Let no one who can graft, consider his old vines of inferior kinds as of no worth; for a little pains, a short period of time, and a cost trivial, if any, will convert them into the best." We think this matter is deserving the attention of our gardeners.

Wines Should be made Without Sugar.

Dr. Flagg, of Cincinnati, well known for his connection with Nicholas Longworth in the extensive production of native wines, contributes for the *Country Gentleman*, the following protest against recipes for sugar wines:

It is not by mashing up sour, wild, unripe grapes with water, sugar and whisky, that our farmers are to become wine growers, however well the mixture may please the palates of unsophisticated women and children, and hard working men, whose olifactories never knew any other wine than Madeira or American manufacture. Tell them that good wine is never made of sugar in any part of the world, and that to weaken with water, or strengthen with spirits is downright wickedness! The grapes must be fully ripe, dropping off ripe, and to render them so the vines must grow on stakes or very low trellises. The expressed juice must then be put into clean "wine green" casks, and cared for very much in the same way good cider is managed. This done faithfully, and the product will be wine that will not ferment over again in the stomach, deranging the livers and muddling the brains.

All tricks of adulteration and debasement our people will take to naturally enough by mere virtue of their nationality, and without being told. After they shall have learned how to make good, pure wine, then they may, for home use, make a cheap beverage in the following way. Into a large cask fling the cheese from the winepress, after all the juice is extracted, or else well mashed wild grapes of good flavor till the cask is half or two-thirds full; then fill up with water and add one pound of sugar to the gallon of water; let the fermentation begin and complete its work in the cask, and then draw off the clear wine and put away in as cold a cellar as you have, and keep it well filled and closed up.—Drink it within the year.

Grapes.—Col. Freas, of the *Germantown Telegraph*, a practical grape grower and excellent authority, thus speaks:

The Hartford Prolific is the earliest sort of good grape we have; but in point of quality, we do not think it comes up to the Concord or Diana, and especially the Delaware. The Concord, with us, as well as in every quarter from which we remember to have heard, is thoroughly hardy, and is becoming universally sought after. It may not be as reliable a bearer as the Hartford Prolific, as the severe frost late in May, seriously injured ours; but there is no mistake about its popularity. While it appears to ripen with us at the same time as the Diana, Delaware and Garrigues, it wonderfully improves by being allowed to remain upon the vines longer than other varieties. There is no danger of it dropping off, however long it may remain unplucked, though it has an enemy in the wasps and bees which claim a participation in its lusciousness.

Be After the Borer.—Whenever you see dust coming out of the bark of your trees, you may expect there is the borer. Cut the bark on each side of the spot. You will find a little colony of them, a finger's breadth apart. If you neglect this, they will bore into the wood of your tree, and then it will be more difficult to catch them, and you will injure your tree. The country is full of such trees; every orchard has them. Keep a look-out, then.

TO MAKE A WINE CELLAR.

A wine cellar, as such, should be constructed as not only to receive wine for storage purposes, but to preserve and improve the wines deposited therein. To that end the wine cellar should have as even a temperature the whole year round as can be obtained—40 deg. to 55 deg. Fah. Therefore, I deem, from experience and observation, that a wine cellar ought to be dug ten to twelve feet deep in the ground, or into a steep hillside, facing north. If dug in the ground, the stone walls should be built strong, from five to seven feet high, according to size of cellar, and then arched. The arching should be about two feet thick, and the cellar inside from eleven to fifteen feet high. On the south side wall it should have a chimney or draught from the top of the arch to top of wall. The door and windows should face north, and on this side grated air holes, as low as the cellar floor, for the admission of fresh air. On the arch should be built a superstructure, or filled up from two to three feet with earth or sand, to keep the summer heat and Mr. Jack Frost out of your cellar. It would be well to have the door inclosed so as to prevent warm air from entering when the door is opened. If the cellar is built with superstructure, this latter will serve very conveniently for a press-house and store-room for preserving vintage and other farming utensils and implements. As to the size of a wine cellar, you must be able to judge for yourself. If you wish to put in twenty casks, each holding sixteen to twenty barrels you need a larger cellar than if you think to store only a few barrels.—[*Ex.*

OUR LANGUAGE.

It is wonderful how mobile the English language is. There is an almost infinite variety. In the hands of every great writer it is different; not only in the form of sentences, their length, volubility, and so forth; but in tone. What variety of shades do we meet! Some writers are rapid, some long-drawn out, some majestic, some trifling, tripping. Language is capable of all this, and much more. It is owing to the extent of our vocabulary; and this extent is various: not two words are exactly alike. There is a difference, if in nothing else, in shape. The appearance of a word has something to do with it. Some words seem well, as well as sound well, or play their part in general.

There is, therefore, almost an infinite capacity in words, and an author but selects from this field of variety. He selects what fits him individually; or, rather, the words come to the wants of his individuality, his peculiar organization. And it is only a certain kind of words that he uses; words that express the particular tone of the author; his style, different from others, and consequently requiring just that different kind of words. Some writers have a slow manner, and require slow, lumbering words; some, the short, quick, precipitate words.

Here, then, is a field for the young author, for any one. It is open for all; for conversation as well as authorship. Thackeray uses different words from Dickens. Tennyson and Dickens are much alike; in the selection of their words as in their manner. An entire new set of words is used by Byron. He loves a Latin-swelling word. It is necessary to his sweeping style. Moore varies a little from Byron. He does not use so much "the full eloquence of scorn, misanthropy, and despair." The misanthrope must have his words. Byron was not familiar with words to write—

"I knew by the smoke that so gracefully curled."

It was too simple for him; much less could he write the poetry of Burns. He agreed, almost exactly with Shelley: differed, again, wholly with Wordsworth.

In Milton, an entirely new state of things takes place. Language is twisted and brought out of shape till it is hardly English. Milton's "inversions" are well known. Nobody in the language uses such language as we see in *Paradise Lost*, showing to what extent our English is capable of being foreignized.

But in Shakespeare we have almost the entire capacity of the language tested. Shakespeare was general master of the language. All styles are found here; because, all characters, true to their brogues, are here represented. We have all varieties of character talking.

It is this mighty capacity of the English tongue that makes it such a power in the literatures of the world. To acquire it, is to acquire an advantage that can never be taken from us, and that will stand by us in cases of need. It is an armor. And yet how careless we are about our mother tongue, that is almost like food to us; our very breath; a thing that is so wholly acquired as language is. There is no excuse for the negligent: all may learn.—But for the student, the literary, the professional man, it is a *sine qua non*.

SPRING.

The delicate lines of Willis are appropriate now:

The Spring is here, the delicate-footed May,
With its slight fingers full of leaves and flowers;
And with it comes a thirst to be away,
Wasting in wood-paths its voluptuous hours;
A feeling that is like a sense of wings,
Restless to soar above these perishing things.

We pass out from the city's feverish hum,
To find refreshment in the silent woods;
And nature, that is beautiful and dumb,
Like a cool sleep upon the pulses broods;
Yet, even there, a restless thought will steal,
To teach the indolent heart it still must feel.

Strange, that the audible stillness of the noon,
The waters tripping with their silver feet,
The turning to the light of leaves in June,
And the light whisper as their edges meet:
Strange, that they fill not with their tranquil tone,
The spirit walking in their midst alone.

There's no contentment in a world like this,
Save in forgetting the immortal dream;
We may not gaze upon the stars of bliss,
That through the cloud-rifts radiantly stream;
Bird-like, the prisoned soul will lift its eye,
And pine till it is hooded from the sky.

LOVE.

The ancient philosophy of love is this:

Love is a sickness full of woes,
All remedies refusing;
A plant that most with cutting grows,
Most barren with best using.
Why so?
More we enjoy it, more it dies;
If not enjoyed, it sighing cries
Heigh-ho!

Love is a torment of the mind,
A tempest everlasting;
And Jove hath made it of a kind,
Not well, nor full, nor fasting.
Why so?
More we enjoy it, more it dies;
If not enjoyed, it sighing cries
Heigh-ho!

SAMUEL DANIEL.

The philosophy has not much changed since then. We now have

How delicious is the winning
Of a kiss at Love's beginning,
When two mutual hearts are sighing
For the knot there's no untying!

Yet remember, 'midst your wooing,
Love has bliss, but Love has rueing;
Other smiles may make you fickle;
Tears for other charms may trickle.

Love he comes, and Love he tarries,
Just as fate or fancy carries;
Longest stays when sorest chidden;
Laughs and flies when pressed and bidden.

Bind the sea to slumber stilly;
Bind its odor to the lily;
Bind the aspen ne'er to quiver;
Then bind Love to last forever.

THOMAS CAMPBELL.

THE TROUT.

In these woods (the North-woods), the trout is at home, as much in the water, as the deer in the forest. And he is master of his element. Besides, he is a king, in the truest sense of the word. He lives on dainties; dainty insects, glittering and curious, and often rare. He, entomologist, knows them well.

And what a current is his; what a home—a palace; he lives in a palace, dotted with pebbles and sand and shining stones, sometimes precious.

Here he sways; and here he glides, "ever laving his shining sides:" for naught in the brook is equal to his own beauty; "turtle-green back and snow-white belly, and eyes—great eyes—that look forever:" day and night they look, in thunder, or the cool shade of summer, or in winter when his palace is a fairy palace, lighted by the snow, and glittering with icicles.

The mosses are his in winter, where he glides and dreams of summer, never doubting that his fountain will ever be exhausted.

There he sways—forever sways—never tiring—eying the rootlets—not the great roots of trees, but the hair-like threads of the grasses and the forest herbs, white, and red, and yellow, like the hair of the nereids. But he dreams not of these; he is matter-of-fact. And if you approach him, he will dart away, so quick!—it is a mere slip; and your memory has the impress of a point, a sharp outline, like the trail of a meteor. He is hid, watching you; with the same great eyes; for he never sleeps; the trout never sleeps, he is never torpid, there is too much mettle in him for that.

He is the great slaughterer of the stream; a perfect tyrant, a shark; and well he shows the metal when the iron is in his jaw. Nor does he belie his character after that, whether he escapes from your wiles, or crowns your china platter, or your bass-wood bark in the forest. Then he is the best of all; then he is savory, tame and delicious, worthy the old Epicurus, who must have known of him.

He also has—not only a home, his element—but his neighborhood. He is a rover; it becomes him; his fleetness admits of this. But, like the Indian, though he may stray, (and he does it most fleetly, like an arrow,) yet he returns—the great head and eyes surprise you as he heaves in sight. It was a voyage bent on depredation. And he succeeded. There is none to rival him. The Pike is not his peer, though a worse tyrant. He (Salmo) is a gentleman, a true knight. A kingly motion ever marks his way, and all his doings: his forays, his battles, his captures.

But he stays at home mostly protecting Mrs. Salmo (who, by the way, is the superior of the two). And he loves her well, without affectation, as a true knight would. He will accompany her, she leading: she the Roman-visaged, he the pike-nosed, the nimble, the sharp-cutting, fleet racer, fit for her attendant.

If one is caught, the other is pretty sure to show what mate he had. The angler knows this, and he knows his haunt. Is he capable of an attachment—the trout?

He is this creature in his Northern home; for he lives only where the frost and the keen breezes float; not in the far home of the sperm whale, but in the most temperate regions of the earth. This selection is another daintiness of his.

Mountains are his delight—waterfalls and rapids. He pleasures in the softest, whitest sprays. Where the swiftest water is, he, swifter still, is found lurking and watching, darting. Here he revels. Here he buries his head and shining sides in the whirling, bubbling water—the very crystal of the mountains—the true mountain torrent. He loves the roar and turbulence.

This is the trout; and this is his haunt. Have I told you of the soft mosses that are steeped in his current? that sometimes form the floor to his palace, over which his brilliant figure is seen to glide?

Here, in such sweet nooks, and rejuvenating places, I have lain and watched him, for hours—when he knew not how near I was—face to face with him—looking through the ferns and viburnums that shaded his stream. How he swayed hither and thither, up and down, slowly, and then a dart—another insect had ceased to be. An instant, and he is back again, working his jaws and feeling with his fins.

And there he stays, never tired, never wearied with monotony, picking now and then a gravel, chasing here and there a leaf, or a real insect, till—he darts muddying the water—he has seen me. A wonder he didn't see me before, who never fails to detect the slightest approach. F.G.

Cooking and Corning Beef.

When meat is fresh it contains considerable blood, which is drawn out by the brine. If the meat is left in this bloody mixture, it will require a much larger quantity of salt to preserve it, particularly through warm weather. My plan is to make a brine by using for every hundred pounds of beef, five pounds of salt, one-fourth of an ounce of saltpetre, and one pound of brown sugar. This is dissolved in just enough water to cover the meat, and poured upon it. When it has been in this brine two weeks, I take out the meat, let it drain, pour a fresh brine over it, and then it will be good the season through.

The cook who uses corn beef should not be so ignorant or so indolent as to delay putting it over the fire until an hour before dinner. A good sized piece requires three or four hours steady boiling to do it justice. Insufficient boiling must be made up by extra chewing. Always have the water boiling when the meat is dropped in, otherwise the sweetness will be drawn out into the water. A boiling heat hardens the outer surface at once, and thus keeps in the juices, which give richness, and which contain most of the nourishment. An excellent way of cooking corned beef is to have a large boiler with a wire or wooden rack on the bottom for the meat to rest over the water. When the water boils, place the meat upon the rack and put on the cover of the boiler with a cloth over it to keep in the steam. The heat of the steam will rise above the boiling point and penetrate the meat, and cook it more quickly and better than could be done by boiling.—[*Ex.*

COFFEE.

It is thought that chicory is unhealthy when used a long time. We see no reason for this opinion. Its long use in Europe and England contradicts this. So it used to be said of tea and coffee. Yet it is now admitted that these beverages are not only harmless when properly used, but beneficial inasmuch as they retard the dissolution of the system, and certainly dispense with a considerable amount of food, of which they are the substitute. In other words, tea and coffee and chocolate are food—not in the direct way of nutrition, but in some yet unexplained reason. The fact alone we have.

Hence, notwithstanding the hue and cry against coffee, it is ordered that the army use it. Those in authority ought to know—and they do know that coffee dispenses in a measure with the use of food, consequently dispensing with much freight, and substituting a grateful beverage—which is, further, advantageous to pickets and septries, by producing wakefulness. Coffee is slanged; but the commissary director orders it. Not only that—the Eastern nations, Turks, Arabs, &c., live almost wholly upon it. It is their daily drink, used at all hours, and presented to strangers. Yet the Turks and Arabs are as long lived as any—the Arabs it is said longer.

We presume the same is the case with chicory, which the war has made a popular drink: popular, because cheap, and hence there is much inquiry about its use, cultivation, &c.

It can be raised as carrots or parsnips are raised, and about half the amount from the same area. It is cut in slices, dried, roasted, and then ground and treated the same as coffee. But we see not why peas, rye, acorns, and other kinds of grain, etc., are not as good—answer all the purposes—as chicory. We know by experience that peas, when thoroughly browned, are about equal to the best chicory root we have ever used. So carrots, prepared in the way chicory is, are little inferior to it.—But grain, &c., is generally not sufficiently roasted. This seems to be the great lack. The

roasted coffee of commerce is not enough browned. A little additional heating, so as to darken it a shade, is beneficial, both to flavor and increase of strength. Particularly is this the case with grain and other substitutes for coffee. These should all be browned up to the point of burning, just missing the coal. For the taste used to raw coffee this would perhaps be too strong. If so, drop it a shade.

It is interesting to see what wretched stuff is drank under the denomination of coffee. The milk and sugar is about all that are tasted; whereas, a little more heat would have made it a drinkable cup, so much so that adepts have been taken in, especially where half coffee and half grain are used. A good cup of coffee is mostly in the preparation. That is the secret—whether grain, coffee or chicory. It is true, Java is preferable to Rio; and Mocha superior to all. It is also true, that time improves coffee; and even climate has much to do with it. But all these things are nothing when coffee is badly prepared. And the sad truth is, but few know how to prepare it.

Use heat, then, plentifully, for that takes away the grain taste, and gives you the coffee flavor. Cheap, grateful drinks, are what the people now want. We recommend, upon a thorough experience, the following method:

Take good coffee, free from dirt, &c.; brown, for fifteen or twenty minutes to a dark chesnut color; cork up tight for use; grind fine, and mix white of egg to moisten—not sticky; take half the usual quantity, which is now ready for your coffee-pot. You must have prepared also a quantity of grain, chicory, or other "coffee," which you must clean, brown—brown well—and grind fine; moisten with white of an egg, or settle with a little isinglass, or in any manner that you may know the knack. Take half the usual quantity. Put into your coffee-pot, which must have what water is wanted for coffee. Boil eight or ten minutes. Then put in your preparation of pure coffee, and boil slowly five minutes. Pour out, and mix with cream and white sugar. Let it stand several minutes, the longer the better if kept hot enough to drink, keep stirring now and then to mix thoroughly the milk and sugar with the fluid.

Then drink. Our word, the "grain" will not be detected. And here you have an exhilarating drink, nourishing and healthful. It is the coffee we are now using, as our health—the state of our nerves—will not admit of the pure article alone. F.G.

CALIFORNIA.

That California should ever be settled, is favorable to its soil and climate. People would not live there unless it was a pleasant place of residence. Gold alone could hardly make a permanent lodgment, especially when people leave the mines and go to farming, and grazing, and raising fruit. This can all be done here, and yet California is chosen. The accounts justify this choice.

A writer in the *Country Gentleman*—the best of agricultural papers, and an ornament to the country—speaks of a part of California, "eighty miles from the Pacific coast and in thirty-fifth degree of latitude, surrounded by mountains and rolling hills, adjoining a wide extensive plain of prairie land, far as the eye can reach." Its river is Kern river heading in the mountains. The water in this section is always soft, and cooled by the mingling of snow-water from the Sierre Nevadas. "We are less annoyed by flies of all kinds and mosquitoes, than any other section of country I ever was in."

The writer says "Kern river is full of fine fish and its bed of fine gold, and some day near, will be worked out to advantage. The soil in almost all this region is of a rich alluvial and intervale, from two to sixteen feet in depth. Oil springs, asphaltum and salt, crop out in many localities."

Winter is the summer season; and grain is sown in December. Frost is rare, and slight when it occurs. In summer—that is, our summer months—there is little rain, and great heat.

The temperature is very even. "Tens of thousands of acres lie vacant, unoccupied, that are suitable to grow barley and wheat, or for stock raising. For herding, I have seen no better country than this; stock keep in high condition, fit for the shambles the year round."

California is destined, it seems, to become one of the principal wine countries of the world.—So of fruit, and many other things. Its gold soil produces also golden crops of grain and fruit.—"Sheep grow to a large size, and very prolific. Lambs may be allowed to drop at any season of the year. Last spring the crop of lambs raised here was over three thousand, and this fall near four thousand. It is not uncommon for the original Spanish sheep to bear four lambs; and three to a birth is quite common; more than one-third year twins. One thousand strong lambs in play, skipping over the hills, is a pleasant sight. About two thousand old sheep comprise one flock, which requires one steady shepherd, and two additional at yearing time. In this

even temperature of climate, the sheep produce more wool than in hot, cold or changeable climates, while it is free from burrs." The Pacific railroad will still farther advance the development of this country. It is different from any other part of our common country, and adds an important variety. It opens commerce to the Pacific, having to do with the Orientals as neighbors. California is destined to be one of the chief divisions of the Union. Its climate is peculiar; and the same may be said of its soil and situation.

[Written for the Valley Farmer.]

A WOOD HOUSE.

In the January No. of the *Valley Farmer*, are some useful thoughts about the best method for preparing firewood. To complete the subject I add a few thoughts about a house to put the wood in.

One may go to much expense, or to a little, as suits one's taste or means, but, if the roof is moderately tight, a cheap structure is just as good for the purpose as if it cost hundreds of dollars.

Five years ago, I built a wood house in the following manner: I got four posts, 8 or 9 feet long, 10 inches in diameter, and on one end, I cut tenants with an ax 2 by 4 inches, and 8 inches long. For plates, I got 4 pieces of poplar, 6 inches in diameter, hewed off two sides with the axe, and in each end bored two holes, close together, with a two-inch augur, and smoothed them out with a chisel. I went to no pains to make things fit. Then I had 4 holes dug in the ground, 2½ feet deep, in which I set the posts and pounded the dirt around them. Then I put on the plates, one end across another end, the tenants of the posts went through both, and everything was solid and strong. For rafters, I got poles in the woods; for shingles I had "boards" or "shakes," (the proper name should be shingles) rived out of oak, three feet long, and for lathing to which to nail the boards, I had strips split out of rail timber. I took little care in putting on the roof; it was rather steep. It has never leaked.

The size of this structure is 16 by 22 feet. It took 600 boards, and the whole cost was about $10. It is to day perfectly solid and will last, for all I know, twenty or thirty years. At first I had the north side boarded up with inch lumber, but it got knocked off, and in this favorable climate, a roof is sufficient. Where there are high cold winds or beating snow storms, I would have the building mostly enclosed; still, if one keeps a plenty of wood on hand it will be sufficient, for it may be piled up on almost any side.

Some who have high notions, would not have such a rough concern on the place, and they will wait till they can "build on the plan." My notion is, that sometimes such temporary structures very greatly assist one to build better.—There is a motto which some farmers have put in circulation that is likely to do as much harm as good, and this is, "do one thing at a time and then do it well." This seems scientific, to say the least. "One thing at a time" is right of course, but sometimes there may be a doubt whether it is best to do a thing at all, or it may not be what you really want, or it may not be in the place where, after awhile, you want it to remain. Farmers, with plenty of means, and after they get fixed, can adopt this plan. It is a good thing to consider the actual condition of most farmers—this is a crowding of work, indebtedness, and yearly failures in one thing if not in another. One gets to be forty years old at least, before he is fairly through experimenting.

I have seen many instances where a nice house has been built with a wood house attached as a part of the building, and after awhile find it finished off for a cook room, and there is no place left for the wood. The way to prevent any such result is, to build a little distance from the house. You can have a shed run to it from the back door.

When you have a wood house, it is manifest that your wood will be dry, and that when it snows you will not have to dig through the snow to find your wood and ax. Here you can chop, here also are your chips and shives which often are so handy for building a fire in a hurry. Sometimes the family is sick; sometimes you do not come home till late, when there may be no wood to start a fire with in the morning; also it is never so likely to rain as when you have no wood cut. It is quite a comfort to go into such a place on a wet, frosty or snowy morning, to chop dry wood.

The cheapest way to get wood is to chop down the best trees you can spare, then cut into logs, 6 or 8 feet long, and split them up fine. Such wood is as easily handled as cord-wood, and more quickly loaded. It will dry soon, and it is in good shape to cut up with a buck-saw. There is always bad weather enough, during which the wood can be finally prepared. I have got over the notion of saving good timber, and cutting up knotty and rough trees. It costs more to split such wood than it is worth.

After long experience in preparing wood for a household, and after having paid at least $5 for wood bought by the cord in a town, I am convinced that a farmer can in no way supply himself with wood so cheaply as by the above plan. Wood when so seasoned is worth as much again as it usually is when brought into towns, or picked up in a hurry and thrown down in the chip yard. This plan will save immense trouble to the women. I know of few things more vexatious to a woman than poor wood with which she is trying to bake or cook. I have seen such; on a cold day, in a great hurry, the bread ready to bake, and no fire. The stove was full of green wood, the sap frying out of it—but a short big stick had got down to the bottom, and was as likely to burn as so much cast iron. The usual resort is to gather up cobs, to hunt around for a dry board, or to cut up a rail. Had the wood been seasoned in a wood house, it would have made the stove red hot, and warmed the house as well as the wife's heart.

To a farmer who would have things nice and comfortable around him, a wood house is indispensable. It is not only an evidence of taste, but of wealth. I care not how much a man may be counted worth; it may be millions; still, if he has no shelter for his fuel, he is in this respect poor. In fact, the difference between him and the man who, every morning, year after year, whittles his kindling with an axe from a large log, is not great.

Once, in traveling through the South-west, I staid at a rich farmer's where the wood was wet, and we had no fire until somebody cut up a rail. The farmer told me that in some countries —the name of the happy land he could not remember—they have houses a purpose to keep wood in, and have it dry the year round. He thought it was nice, but he seemed to have no idea that he could have such a house himself.

Nations and men progress slowly, and it takes them long to learn a little. How little we progress is obvious, when not one farmer in a hundred has the great convenience of a wood house. Wealth consists, not in money, but in comforts. There are few farmers who cannot increase in wealth by adding to the conveniences of their homes.

Dongola, Ill. N. C. M.

Ventilating a Cellar.

A correspondent of the *Scientific American* says:

"In my sitting room, immediately over the cellar, I have a small cast-iron, air-tight, wood-burning stove, with three and a half feet of six inch pipe connected through a thimble with the chimney flue at about one foot from the stove. I have made a T connection with the stove pipe with pipe of the same size, passing through the floor and reaching to within a foot of the cellar floor. At the top of this pipe, close to the connection with the stove pipe, there is a valve which regulates the draft of cold air taken from the cellar. The opening in the floor is half an inch larger than the pipe. The vacuum produced in the cellar by the draft in the chimney-flue, draws an air down from the chamber through the space around the pipe in the floor. My cellar, which was before damp, is now as dry and pleasant as any room in my house. Formerly, articles placed in my cellar soon became mouldy and were spoiled for the want of ventilation."

Pruning Roses.—The *Gardener's Monthly* says: —"The fall blooming kinds, which flower on the new growth, may be pruned as severely as we wish—in fact, the 'harder' they are cut in the better. In this class are the Noisette, Bourbon, Tea, China, and Hybrid perpetual, and perpetual Moss. Without considerable experience it is difficult for the amateur to distinguish these classes; the best way to get over the difficulty is to obtain the catalogues of the principal rose growers, in which each kind is usually classified."

Domestic Department.

Sweet Apple Pudding.—Take one pint scalded milk, one pint Indian meal, one teacup of molasses, a teaspoonful of salt, three eggs, six sweet apples cut in small pieces; bake not less than three hours—a genuine, luxurious Yankee pudding.

Boiled potatoes are nice to cleanse the hands, they prevent chapping, and keep the skin soft and white.

When a carpet is faded, if there is no grease in it, it may be restored by dipping in strong salt and water.

Poison for Bed-Bugs.—An ounce of quicksilver, beat it up with the whites of two eggs, and apply it with a feather. The cleanest and surest bed-bug poison. Put away carefully in bottles, with label, for it is dangerous around the house.

Glass vessels of a cylindrical form may be cut into by tying a woolen yarn around them, dipped in spirits of turpentine, and setting fire to the yarn.

For cholic and cramp, beat the white of one egg to a froth, add a teaspoonful of brandy, a wine-glass full of hot water, a little nutmeg, a teaspoonful of sugar.

A good quantity of old cheese is the best thing to eat when distressed by eating too much fruit, or any kind of food.

Cranberry Roll.—Stew a quart of cranberries in just water enough to keep them from burning; make it very sweet, strain it through a colander, and set it away to cool; when quite cold, make a paste as for apple pudding; spread the cranberries about an inch thick; roll it up in a floured cloth, and tie it close at the ends; boil it two hours, and serve with sweet sauce. Stewed apples, or any other kind of fruit may be made in the same way.

To Take Rust Out of Steel.—Rub well with sweet oil, and let the oil remain upon them for forty-eight hours. Then rub with leather sprinkled with unslacked lime, finely powdered, until all the rust disappears.

Ground charcoal is said to be the best thing in the world for cleaning knives.

Coloring.—When the farmer's wife wants to color a bright red, she must wash her yarn clean and nice, boil in strong alum water; then dry in the sun a day —but don't rinse it out. Next day boil in good madder, and soak over night; then dry again, after which wash it and you have a brilliant bright red. When you want to color a bright green, you must boil in alum water the same way, having everything very clean; then boil in the kettle some good, strong, black, hickory bark; take out the bark and put in the yarn; boil thirty minutes; after drying, wash the yarn, then make some blue dye in the usual way, from indigo and a small bit of madder.

Cream Tartar Crackers.—Take 1 cup of shortening, 2½ of water, 1 teaspoonful of soda, 1½ of cream tartar, and a little salt. Work the flour in till the dough is smooth; then roll out thin and cut in squares. The quicker they bake the better.

To Candy Fruits.—Take one pound of the best loaf sugar; dip each lump into a bowl of water, and put the sugar into your preserving kettle. Boil it down and skim it until perfectly clear, and in a candying state. When sufficiently boiled, have ready the fruits you wish to preserve. Large white grapes, oranges separated into small pieces, or preserved fruits taken out of their sirup and dried are very nice. Dip the fruits into the prepared sugar while it is hot; put them in a cold place; they soon become hard.

Editor's Table.

Only Seventy-Five Cents.

We will send the VALLEY FARMER from the first of May to the end of the year—eight months—together with our Premium Essay on the Culture and Manufacture of Sorghum, for only seventy-five cents.

As an inducement to our old subscribers to put forth some exertions to procure new subscribers, we will send to those who forward us one name and seventy-five cents, the Report of the Missouri State Horticultural Society, recently published. This Report is valuable to every Western fruit grower, and can be obtained so easily by this offer, that we hope to see it widely disseminated.

ROLLING MEADOWS IN SPRING.—It will benefit a meadow to roll it early, if the ground is light and porous, i.e. sandy or gravelly, which means more or less dry, and even if somewhat wet it will probably benefit it more to roll it than not roll it at all. But a clay soil, in no case, should be rolled when wet. It is fatal to the soil if continued for several years. It will pack and brick-bat your ground, and years of future cultivation will be required to correct the evil. A good time to roll a clay soil, is when the harrow leaves it. This so far has been the best experience. It is a point of very great importance.

SMALL AGAINST LARGE CLOVER.—In localities where the large red clover was exclusively raised, and the small despised, the small is now crowding out the large, because the small will yield two crops in a season, where the large grew but one. The first crop is cut for hay—yielding better hay than the large kind—the second crop for seed, yielding better also than the large. Besides, the small clover is earlier. It will afford pasture a week and a half to two weeks sooner than the tardy large kind. When fed close, it will start up sooner than the large kind, thus making it the better all round than the large. Hence, the old prejudices against the large clover, are, by the potent pocket interest, made to give way for the abused little clover.

Proceedings of the State Horticultural Society.

The Proceedings of this Society are published in pamphlet form. They are printed in good style, and on good paper making a very valuable work of 60 pages. We had a number of distinguished horticulturists from a distance, whose remarks and essays add great value to the discussions. Not having space to publish these proceedings in the "Valley Farmer," without crowding upon our other departments, we have issued a few hundred extra copies at our own expense, and will furnish them to our readers at cost price, 25 cents. Some of the essays alone are worth this sum. To every fruit grower the pamphlet is worth several dollars. All the fruits are taken up and discussed, and lists adopted of the best varieties. The best modes of culture are pointed out, and a vast amount of valuable pomological information given. By enclosing 25 cents in a letter to the Editor or Publisher of this journal, the pamphlet will be sent postage paid.

ED. VALLEY FARMER: I find in the Patent Office Report for 1849, an article under the head of "Melsen's Plan of Making Sugar," in which it is stated that great success in Sugar Making was attained, by adding Bi-Sulphate of Lime to the freshly-expressed juice of beets and Southern Cane, and recommending that it be tried with a view to making sugar from corn-stalks.

Will you, or some of our Sorghum manufacturers, inform me whether the Bi-Sulphate of Lime has been used with the Sorghum juice, and with what results?

Kansas. J. W.

AGRICULTURAL ITEMS.—Be careful of your pea straw, as it will make the best manure of any.

Turnips can be raised on poorer soil than beets, and are most profitable, as they are equal in feeding quality.

Clover is one of the most profitable plants grown, because it draws its strength largely from the atmosphere; because it makes flesh; and because it makes manure, its long roots penetrating the soil.

Mix guano with the soil for cabbage, and plant as early as the ground will permit (for early use), as the cabbage is hardy and stands the cold well.

The carrot thrives in a limed soil.

Onions like ashes. Also dry ground when sown; but no rank manures.

Don't get your tomatoes and tender peppers out too early. We have known the finest tomatoes blasted when put out (the first time) in a raw wind, with the mercury ten to twenty degrees above the freezing point. F.G.

INQUIRIES.—Dear Valley Farmer: I am but a beginner, and want to learn all I can, and make a practical use of all the means at my disposal.

I have 115 acres of cleared bluff land, and want to know how I can best use them; my object being—Mutton, Wool, and Peaches, for the St. Louis market. I am putting out 1,200 trees, and had a tedious time laying off the ground. I first carried a chain and drove pegs, but soon quit, and took a team and plow, running furrows 18 feet apart and crossing. If there is a better way, please publish the same.

I purpose devoting all the land to sheep, and would like to know the best plan, as, for example—How to divide the land; what kind or kinds of grass; how many sheep the land will maintain; also what stock of sheep is best—I have the Improved Kentucky.

I will also append what I consider a very valuable recipe for a liniment, which is good for bruises, strains, swellings, &c. I style it Anti-Inflammatory Linament. I have used it on horses, and have seen much of it sold for that purpose:

½ gal. old whisky, 2 ozs. oil of spike, ½ gal. spirits of turpentine, ½ gill hartshorn, 2 ozs. camphor, 5 ozs. castile soap. The components do not unite well chemically, consequently a thorough shaking is necessary before applying. PROGRESS.

[Can any of our readers give our correspondent any information.—Ed.]

St. Louis County Mutual Protection Society.

The following were the proceedings had in the formation of the above-named Society, and which we publish for the benefit of those who may desire to form similar associations in other portions of the State:

"To the Editor of the St. Louis Daily Union:

"In pursuance of a call for a meeting of the citizens of this county, published in this paper of the 14th of April, a meeting was held at the house of Col. Geo. Rinkel, on Thursday last, and the above-named Society was formed.

"Mr. N. J. Colman being called to the chair, addressed the meeting at length, stating the object had in view, and what might rationally be expected to result from the proposed organization.

"For the last two years the citizens of this county had, he said, been subjected to a series of depredations which of late had become unendurable. The most valuable horses have been stolen from us, and unless we organize, there is danger that we shall be completely stripped of all our valuable stock. For the purpose of preventing this, let us organize and raise a large fund, to be expended in the capture of the stolen property and of the thieves.

"Dr. Henderson, of Bridgeton, also addressed the meeting, approving of the proposed plan.

"Col. Rinkel stated that not less than fifty horses, valued at $150 to $600 each, had been stolen from persons within the circle of his acquaintance during the last six months.

"After some further remarks, a plan of organization was submitted by Dr. Colegrove, which, with some amendments, was finally adopted, being a Constitution and By-Laws, by the provisions of which every member is required to pay to the Treasurer the sum of Five Dollars, for which he receives from the Treasurer a printed receipt. He is then entitled to all the benefits of the Association; and upon notifying the President, in case of loss of property by theft, prompt and instantaneous measures are to be taken for the recovery of the property and the arrest of the thief.

"The most determined and unanimous spirit prevailed at the meeting, and quite a large sum was raised on the spot.

"Upon motion of John Goodfellow, Jr., the meeting proceeded to ballot for permanent officers for the ensuing year, which resulted as follows: President, Norman J. Colman, Central Township. Vice-President, Thomas G. Settle, St. Ferdinand Township. Treasurer and Secretary, Dr. J. B. Colegrove, St. Louis Township. Council of Administration, L.L.L. Allen, St. Louis Township; John F. Lay, Central Township; Dr. W. W. Henderson, St. Ferdinand Township.

"Moved by Mr. Allen, that one thousand copies of the Constitution and By-Laws be printed for the use of the members. Adopted.

"Moved by Mr. D. Leitch, that the Treasurer cause to be printed one thousand receipts for the use of the Society. Adopted.

"It was ordered that a copy of the proceedings be furnished each of the morning papers for publication.

"The Society then adjourned to meet at Col. Rinkel's, on Saturday, the 25th day of April, instant, at 4 o'clock, P.M."

The following is the Constitution and By-Laws:

CONSTITUTION.

Article 1. This Society shall be known as the "St. Louis County Mutual Protection Society."

Art. 2. The officers of the Society shall consist of a President, a Vice President, a Treasurer and Secretary, and a Council of Administration, who shall be elected at the regular meeting on the first Saturday in each year, to serve one year.

Art. 3. It shall be the duty of the President to serve at all the meetings of the Society; to issue calls for special meetings; and, when necessary, to draw his check upon the Treasurer for moneys to be expended by him as hereinafter provided.

Art. 4. The Vice-President shall perform all the duties of President, in case of absence or inability to do so.

Art. 5. It shall be the duty of the Treasurer to receive all moneys belonging to the Society; to keep a just and correct account of the same; to pay all checks of the President, and to pay over all said moneys to his successor in office. He shall also keep a correct record of the proceedings of the Society, and perform all the duties of Secretary.

Art. 6. The Council of Administration shall consist of three persons, members of this Society, who shall be elected by the Society. It shall be their duty to consult with the President upon all matters of importance, and who, with the President and Treasurer shall constitute an Executive Committee.

Their meetings shall be held subject to the call of the President, as often as necessity shall arise.

BY-LAWS.

Article 1. Any citizen of St. Louis County may become a member of this Society, by paying the fee of Five Dollars to the Treasurer.

Art. 2. Whenever any member of this Society, in good and regular standing, (his dues being all paid, and he not being in debt to the Society,) shall make application to the President for assistance, his property having been stolen, it shall be the duty of the President to institute proceedings for the recovery of such property, to draw his check upon the Treasurer, for such amount as may in his judgment be judiciously expended for that purpose. The amount of money so expended shall in no case exceed one-fourth of the value of the property stolen. Except on the recommendation of the Council of Administration.

Art. 3. No money belonging to the Society shall be appropriated for any purpose whatever except for the recovery of stolen property belonging to members of the Society, and for the arrest and detention of the thieves, except by a vote of the members at a regular meeting thereof.

Art. 4. The regular meetings of this Society shall be held quarterly, the first Saturday in January, April, July, and October.

Art. 5. No citizen of any other county than St. Louis, shall be permitted to join the Society.

Art. 6. No money shall be expended for the benefit of any member of the Society, who has lost property by theft, who shall not have been a member previous to the committing of said theft and loss of said property.

Art. 7. A report of the transactions of all the officers of this Society shall be made publicly to the Society at the regular meetings thereof, excepting in such matters as it may not be advisable to announce.

Art. 8. An Auditing Committee shall be appointed at each regular quarterly meeting of the Society, to audit the Treasurer's account; and shall report to the Society.

Art. 9. A tax may be levied upon the members of the Society, semi-annually, not exceeding four dollars each per annum, whenever the Society shall so vote.

Art. 10. A receipt shall be given to each member of the Society, by the Treasurer, for all moneys paid to him for membership or semi-annual tax.

Art. 11. Any member who shall refuse, or fail after proper notice, to pay his dues to the Society, shall thereby forfeit all the benefits derivable from membership, and it shall be the duty of the Treasurer to strike his name from the list of members.

Ed. Valley Farmer: I have received the "Valley Farmer," and am highly pleased therewith. I wish to ask a few questions of you, or, if you see proper, of your readers.

What is the best and safest remedy for lice on colts or calves?

When is the best time for grafting and budding?

Is it best to prune peach trees as apple trees; and if so, when is the best time?

Is it any more harm to distil corn into whisky and sell it, than to raise that precious weed—tobacco.—As we all should have in view the moral bearing of the business we are engaged in, I counsel an investigation into the relative moral qualities of the twin demons I assume the ground that tobacco is a greater curse to-day to the human family than ardent spirits! Who denies? The farmers, generally, are too often governed by the money results. They ask—Will it pay?—and do not reflect upon the pernicious and ruinous effect of their doings upon their fellow men. If our neighbor is frenzied and seeks to destroy his own or others lives—and we put a weapon into his hands, and he uses the same to the destruction of life, we are certainly accessory to the murder. X. Y. Z.

Down in Egypt.

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Gophers.—Ed. Valley Farmer: Can you or some of your correspondents inform me of an effectual and practical mode of ridding a young orchard and garden from gophers, who are destroying our choice fruit trees by knawing off the roots and doing other damage. J. J. Secrest, Randolph, Kan.

EVERGREENS.

A splendid stock of Evergreens for sale, grown here, with masses of fibrous roots and sure to live when transplanted, consisting of:

NORWAY SPRUCE.	AUSTRIAN PINE.
SCOTCH PINE.	HEMLOCK SPRUCE.
BALSAM FIR.	WHITE SPRUCE.
ARBOR VITÆ.	WHITE PINE.

Price from fifty cents to one dollar and fifty cents each, as parties may order. Norman J. Colman.

TO GRAPE PLANTERS.

We have a fine stock of the following approved varieties of grapes for sale, viz:

HARTFORD PROLIFIC.	GARRIGUES.
CONCORD.	DIANA.
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